

# PowerNet Twin Client™

*Terminal Emulation for Falcon RF™*

## User's Guide



**PowerNet Twin Client User's Guide  
Second Edition ©2000**

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**INTRO**

# **PowerNet Twin Client Emulator**



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# What is PowerNet Twin Client

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PowerNet Twin Client is a terminal emulation and screen formatting package. This application supports VT100/220, HP700/92, and IBM 3270/5250 emulation.

PowerNet Twin Client consists of a telnet client that will run on a stand-alone terminal client and a Windows-based configuration. The formatting utility provides screen shaping without the need for an NCU (Network Control Utility).

**PowerNet TN** and **PowerNet Twin Client** refer to the same application and are used interchangeably in this document.

## PowerNet Twin Client: Basic Features

The following basic features are available with PowerNet Twin Client configurations:

- Industry standard telnet protocol over TCP/IP.
- Windows-based configuration utility.
- Extended command set for terminal control from the host application.

## PowerNet Twin Client: Advanced Features

The PowerNet Twin Client also has advanced features that improve the ability to reformat host application screens:

- ♦ **The Screen Capture Utility** is a Windows-based terminal emulator. This utility captures "snapshots" of the host application screens that are formatted by the Screen Formatter Utility.
- ♦ **The Screen Formatter Utility** builds screen formatter files for use on the terminal. A Windows interface is used to capture the 80 column by 24 row terminal screens and then reformat them to fit into the terminal's screen area.



# Getting Started

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## Installation

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To install PowerNet Twin Client, insert the CD into the CD drive.

Complete the following steps:

1. Open the CD drive directory. Run the **setup.exe** file.
2. Read the on-screen instructions and press the **Next** button to continue the installation.
3. Press the **Next** button to accept the default installation directory. The default directory is **C:\PWRNETTN**.
  - ◆ If necessary, press the **Browse** button to define a different installation directory.
  - ◆ Press the **Next** button to continue the installation process.
4. Press the **Next** button to accept the default Program Folder for the PowerNet TN startup icon. The default program folder is **PowerNetTN**.
  - ◆ If necessary, enter an alternate program folder name in the **Program Folders** field at the top of the **Select Program Folder** form.
  - ◆ Press the **Next** button to continue the installation process.
5. Enter **PE3892** as the installation key in the blank dialog box. Press the **Next** button.
6. Press the **OK** button when the “Installation Complete” message appears.

# Loading Default PowerNet Twin Client on Falcon

---

The next task is to load a basic PowerNet Twin Client configuration onto the Falcon.

Complete the following steps:



*For **Falcon 6x5** only: Begin with **step 2**.*

1. Type **FORMAT** at the **C:\** prompt on the Falcon. Press **ENTER** to begin formatting.
2. Use the serial cable provided with the Falcon to connect the Falcon's serial port to a serial port on the PC.
3. Press the **Windows Start** button.
4. Select **Programs** and then select **PowerNet TN**.
5. Select **Configuration Utility** to start the PowerNet Twin Client Windows configuration utility.
6. Open the **Terminal** menu and select **Options**.
7. Select the **Falcon Type** from the **Terminal Model** list.
8. Select the type of radio installed in the Falcon from the **Radio Type** list.
9. From the Communications Port group, select the **COM Port** that will be used by the PC to communicate with the Falcon.
  - ♦ The selected **COM Port** must match the port the serial cable was attached to in Step 2.
10. Press the **OK** button to save the selected options.
11. Select **Save As** from the File menu.
12. Enter **default.cf** in the File Name field and press the **Save** button.
13. Verify that the Falcon is turned on and at a **C:\** prompt.

## Loading Default PowerNet Twin Client on Falcon

---

14. Perform a safe-boot of the terminal.
  - ◆ **For Falcon 315 and 325:** Press **<CTL><ALT><DEL>**. When the “Wait...” message appears, press **<ESC><DEL>**.
  - ◆ **For Falcon 335:** Press **<CTL><ALT><DEL>**. When the “Wait...” message appears, press **<ESC><SPACE>**.
  - ◆ **For Falcon 615/655 (6x5):** Press **<F5>** at the **starting MS-DOS** prompt.
  - ◆ **For Falcon 3xx only:** The terminal will emit a low tone followed by a higher pitched tone if the safe-boot is successful.
15. Select **Send Program Files to Terminal** from the **Terminal** menu in the PowerNet Twin Client Windows Configuration utility.
16. Press the **Yes** button to confirm sending the configuration files to the Falcon.
17. Type **LD** on the Falcon keypad and press the **ENTER** key.
18. Press the **OK** button on the PC to start the transfer.
19. Press the **OK** button on the PC after receiving the **Transfer Complete** message.

# Starting PowerNet Twin Client

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To complete the installation process, perform a safe reboot the Falcon terminal:

- ♦ **For Falcon 315 and 325:** Press **<CTL><ALT><DEL>**. When the “Wait...” message appears, press **<ESC><DEL>**.
- ♦ **For Falcon 335:** Press **<CTL><ALT><DEL>**. When the “Wait...” message appears, press **<ESC><SPACE>**.
- ♦ **For Falcon 615/655 (6x5):** Press **<F5>** at the **starting MS-DOS** prompt.
- ♦ **For Falcon 3xx only:** The terminal will emit a low tone followed by a higher pitched tone if the safe-boot is successful.

After rebooting the Falcon, the PowerNet Twin Client will start automatically.

# Configure PowerNet Twin Client

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## Configuration Menu



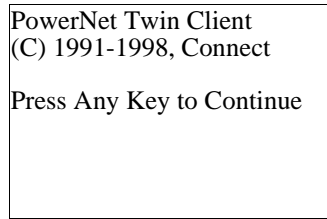
*Do not bypass the **Configuration** Menu. The Falcon will not function properly without configuration. The **IP Address** and **Host IP Address** must both be set in the **Configuration** Menu.*

The application must be configured on both the PC and the Falcon.

After the Falcon has been rebooted and the PowerNet Twin Client application has started, an “Any Key to Continue” message will be displayed. If this message does not appear, please repeat the steps for [“Loading Default PowerNet Twin Client on Falcon” on page 1-4](#).

Complete the following at the **Continue** Prompt to start the Configuration utility on the Falcon.

Figure 1-1 Start Screen



```
PowerNet Twin Client
(C) 1991-1998, Connect

Press Any Key to Continue
```

**For all Falcons:** Press uppercase **<C>** to enter configuration screen.

The PowerNet TN Configuration Menu is shown in [Figure 1-2 on page 1-8](#). Use the Falcon's up and down cursor keys (**▲** and **▼**) to navigate the menu, and press **ENTER** for the desired option.

Figure 1-2 Configuration Menu

```
Edit Functions
Edit IP
Edit Host List
Edit Radio
Run Survey
Switch Modes
Run Emulator
Exit
```

### Edit IP

The **Edit IP** option sets up the IP address for each Falcon.

Figure 1-3 Sample IP Address Configuration Screen

```
IP nnn.nnn.nnn.nnn
SN nnn.nnn.nnn.nnn
RT nnn.nnn.nnn.nnn

<F3> Save <F7> Quit
```

Complete the following steps to configure the Falcon's IP address:

1. Using the Falcon's up and down-arrow keys (▲ and ▼), highlight the **Edit IP** function and press the **ENTER** key.
2. Enter the Falcon's IP address in the **IP** field and press the **ENTER** key.
3. Enter the Falcon's subnet mask in the **SN** field and press the **ENTER** key.
4. Enter the Falcon's router (gateway) IP address in the **RT** field and press the **ENTER** key.

If the Falcon does not require a router (gateway) IP address, enter **0.0.0.0** in the **RT** field and press the **ENTER** key.

5. Press the **<F3>** key to save the IP settings and return to the **Configuration** Menu.



*Consult the IS manager at the installation site to coordinate the IP addresses of the Falcons with the rest of the network installation.*

*For DHCP support: Enter 0.0.0.1 as the IP address. (Datalight™ TCP/IP stack only)*

## Edit Host List

PowerNet Twin Client supports up to five host machines. The host list option sets the IP address for each host machine. A sample **host list** screen is displayed in [Figure 1-4](#).

Figure 1-4 Sample Host List Configuration Screen

Host n
IP nnn.nnn.nnn.nnn
Port nnnn
<F3> Save <F7> Quit

Complete the following steps to configure the host's IP address:

1. Using the Falcon's up and down-arrow keys (▲ and ▼), highlight the **Edit Host List** function and press the **ENTER** key.
2. Enter the IP address of the host application server in the **IP** field and press the **ENTER** key.
3. Enter the port for the telnet session in the **Port** field and press the **ENTER** key. The default port value is **23**.
  - ◆ Contact the network administrator if there is any confusion on the port value.
4. Repeat steps 2 and 3 until each host IP address has been entered.

5. Press the **<F3>** key to save the host settings and return to the **Configuration** Menu.

### Edit Authorization

Once the Falcon's IP address and host machine address have been set, each PowerNet Twin Client terminal must then be authorized to operate. The terminal authorization code, which is based on the terminal's unique serial number or MAC address, is provided with each terminal. If an authorization code is not included with the terminal, complete and send the PowerNet Twin Client authorization code request form to PSC.

Use the authorization screen to enter the code. See [Figure 1-5](#) for a sample authorization screen.

Figure 1-5 Sample Authorization Screen

F0003196
Authorization
39DB-0989-AA21
Not Authorized
<b>&lt;F3&gt; Save &lt;F7&gt; Quit</b>

Complete the following steps to enter the authorization code:

1. Using the Falcon's up and down-arrow keys (**▲** and **▼**), highlight the **Edit Authorization** function and press the **ENTER** key.
2. Enter the authorization code in the **Authorization** field and press the **ENTER** key.
  - ◆ The authorization code must be entered exactly as it is presented.
  - ◆ When the authorization code is entered and the **ENTER** key pressed, a status prompt will change from "NOT AUTHORIZED" to "TN ADVANCED". If this status does not change, the authorization code is incorrect.



3. Press the **<F3>** key to save the authorization code and return to the **configuration** menu.



*Failure to authorize a Falcon properly will prevent the unit from operating with PowerNet Twin Client. Contact a reseller for assistance if there are any problems with authorization.*

### PowerNet Twin Client Demo Mode

PowerNet Twin Client runs only in demo mode if no authorization code is entered or if an incorrect authorization code is entered. The client program will have all of the normal functionality of the registered product but will cease operation after **thirty minutes**.

A “**RECOVERABLE ERROR**” message will be displayed if there is any attempt to run the emulator. Press any key to connect the client to the host in demo mode.

# Running Emulator

---

After configuring the Falcon data terminal (IP Address, host list, and authorization code), login to the host application.

Complete the following steps to start the PowerNet Twin Client emulator:

1. Perform a safe-boot of the terminal.
  - ♦ **For Falcon 315 and 325:** Press **<CTL><ALT><DEL>**. When the “Wait...” message appears, press **<ESC><DEL>**.
  - ♦ **For Falcon 335:** Press **<CTL><ALT><DEL>**. When the “Wait...” message appears, press **<ESC><SPACE>**.
  - ♦ **For Falcon 615/655 (6x5):** Press **<F5>** at the **starting MS-DOS** prompt.
  - ♦ **For Falcon 3xx only:** The terminal will emit a low tone followed by a higher pitched tone if the safe-boot is successful.
2. After receiving the “Any Key to Continue” message, press any key to connect to the application host server.

If the first host connection fails, PowerNet Twin Client will try to connect to the second defined host. If all of the defined hosts fail to connect, an error will be displayed.

## Viewport Panning

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If a screen of text is larger than the terminal's screen, it is still possible to pan the viewable screen on a Falcon (viewport).

**For the Falcon 315 and 315:** Press **<CTL><(directions)arrow>**.

**For the Falcon 335:** Press **<ALT><(directions)arrow>**.

It is highly recommended that the screens be redesigned to fit within the display area of the terminal.



# Configuration Utility

The PowerNet Twin Client Configuration utility sets up the PowerNet Twin Client application for Falcon terminals. The Configuration utility provides the tools to quickly modify RF, scanner, keyboard, and display settings. After a configuration has been created, the same settings can be loaded onto additional Falcon units.

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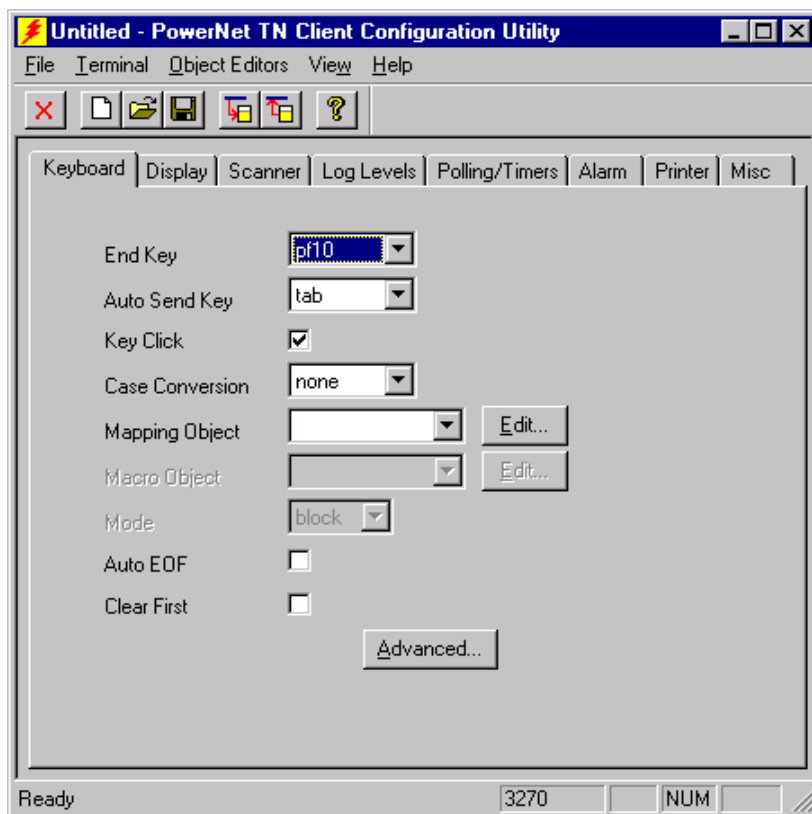
# Starting Configuration Utility

---

Complete the following steps:

1. Verify that the Falcon is properly attached to the host PC.
2. Press the Windows **Start** button.
3. Select **Programs** and then select **PowerNet TN**.
4. Select **Configuration Utility** to start the PowerNet Twin Client Windows Configuration utility.

Figure 2-1



# Set Emulation and Servers

---

Before configuring the PowerNet Twin Client emulator to work with the target server, select the appropriate emulation type and identify host servers.

## Emulation

PowerNet Twin Client supports several terminal emulation modes that connect to a variety of host application terminals.

1. From the Terminal menu, select **Emulation**.
2. Select the proper emulation for the application (refer to [Table 2-1](#) for available values).



*Depending upon the selected emulation value, configurable fields in the PowerNet Twin Client Configuration utility will either be enabled or disabled (grayed out).*

3. Press the **OK** button.

Table 2-1

Emulation Values	
Default	VT100
Available Values	VT100
	VT200
	HP700
	IBM3270
	IBM5250

## Host Servers

PowerNet Twin Client supports up to five host machines. This provides redundancy in the event that the connection to one of the host machines should fail. Define the host list by completing the following steps in the PowerNet Configuration utility:

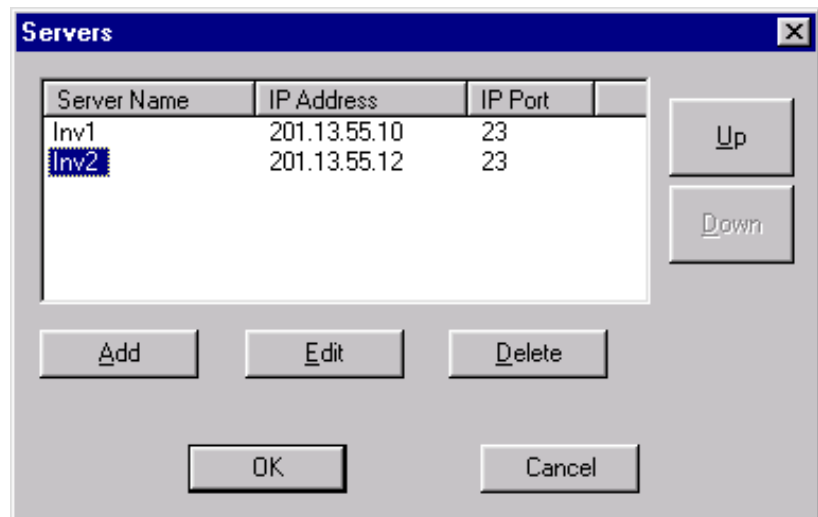


1. From the **Terminal** menu, select **Servers**.
2. Press the **Add** button.
3. Enter a name for the host server in the **Server Name** field.
4. Enter the IP address for the host server in the **IP Address** field.



*If the network supports DNS and the server name is known, enter the server name in the Server Name field and press the Lookup button to automatically populate the IP Address field.*

Figure 2-2



5. If necessary, enter the host server's port value for a telnet session (Do not change this value unless otherwise instructed by the system administrator).
6. Repeat steps 2 – 5 to add additional host servers to the server list.
7. Press the **OK** button after completing the server list.

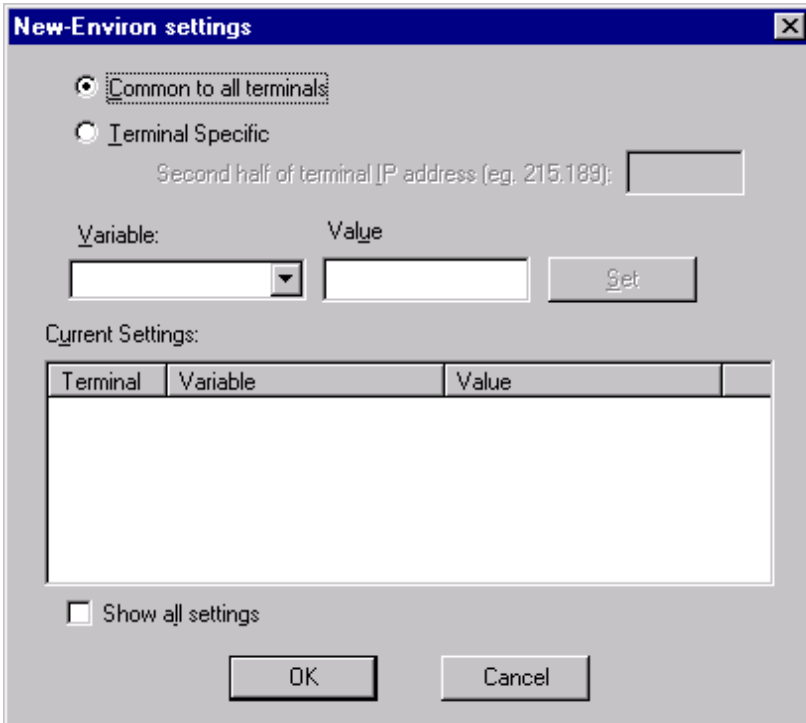
### New-Environ Setting

The New Environ settings supports terminal scripting of the 3270 and 5250 emulation types by application developers or system administrators.

- From the **Terminal** menu, select **New Environ Setting**. The **New-Environ Settings** window is illustrated in [Figure 2-3](#).

These options can script the Variable and the Value for any or all terminals

Figure 2-3



The dialog box titled "New-Environ settings" has a close button (X) in the top right corner. It contains two radio buttons: "Common to all terminals" (selected) and "Terminal Specific". Below the "Terminal Specific" option is a text field labeled "Second half of terminal (P address (eg. 215.189)):". Below this are two text fields: "Variable:" (with a dropdown arrow) and "Value:". To the right of the "Value:" field is a "Set" button. Below these fields is a section labeled "Current Settings:" containing a table with three columns: "Terminal", "Variable", and "Value". The table is currently empty. At the bottom left is a checkbox labeled "Show all settings". At the bottom center are "OK" and "Cancel" buttons.

Terminal	Variable	Value
----------	----------	-------

# Configuring PowerNet Twin Client

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PowerNet Twin Client can be operated without any adjustments to the default configuration.

The **Configuration Utility** tabs include the **Keyboard**, **Display**, **Scanner**, **Log Levels**, **Polling/Timers**, and **Alarm** settings. These settings can be configured to work with a number of host applications as well as specific automated data collection processes (i.e. scanning).



***Grayed out fields in the PowerNet Twin Client Configuration utility are not configurable.***

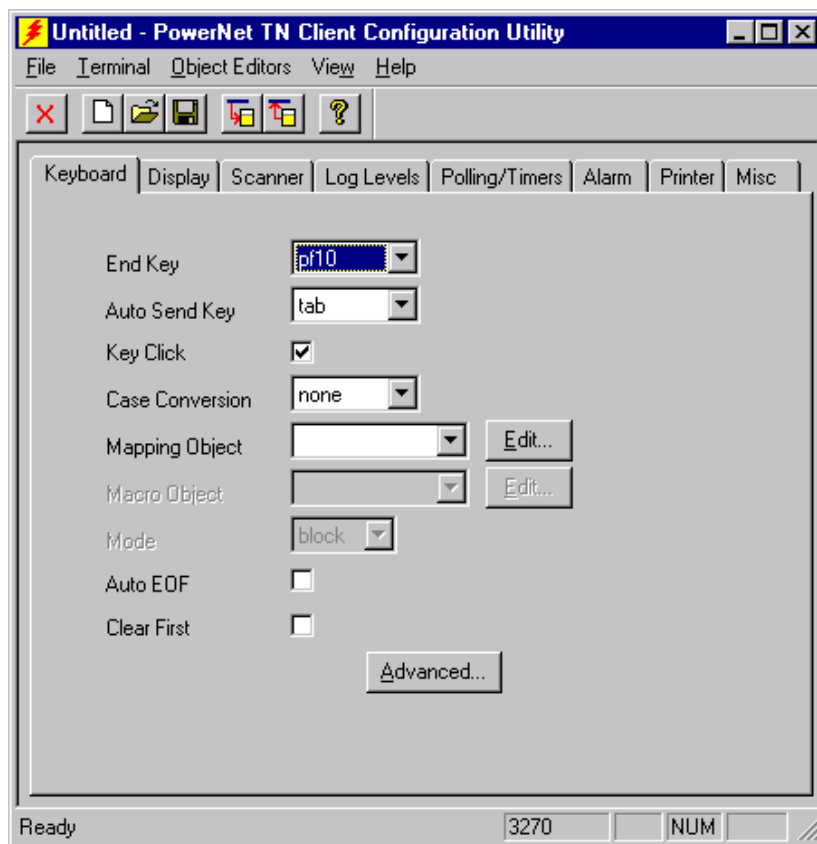
## Configuration Utility

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### The Keyboard Tab

The **Keyboard Configuration** Tab modifies how the keyboard interacts with the host application. The **Keyboard Configuration** Tab is illustrated in [Figure 2-4](#).

Figure 2-4



#### End Key

Select the key from the pull-down list that will be the **End Key**. The terminal session is terminated when the **End Key** is pressed.

Auto Send Key

The **Auto Send Key** automatically processes an entry when the maximum amount of data allowed in a field is inputted. For example, if the maximum input field for a Social Security number is 11 characters (**###-##-####**) the auto send key will process the entry after 11 characters have been entered.

- Select the **Auto Send Key** from the **Auto Send Key** pull-down list.

Key Click

The **Key Click** feature enables an audible “click” that verifies when a key on the Falcon has been pressed.

- Check the box to enable this feature.

Case Conversion

Case Conversion controls the case of data sent to the host application. For example, if the host application requires all data entry to be upper case, PowerNet Twin Client will convert the entry **TestEntry** to **TESTENTRY** if the Case Conversion feature is set to **Upper**. Conversely, if the Case Conversion feature is set to **Lower**, entries will be converted to lower case

Table 2-2

Case Conversion Values	
Default	None
Available Values	<b>None:</b> No case conversion will be applied to the entered text.
	<b>Upper:</b> All entered text will be converted to upper case characters before being sent to the host application.
	<b>Lower:</b> All entered text will be converted to lower case characters before being sent to the host application.

### Mapping Object

The Mapping Object links the keys on the Falcon to a specified terminal key. For instance, a mapping object can specify that the keypress **<CTL><V>** on the Falcon will be the **<pf24>** key stroke on the host application. Refer to the [“Keyboard Mapping” section on page 3-5](#) for information on building and editing Mapping Object files.

- To apply a **Mapping Object** to a current configuration, select the appropriate map object from the **Mapping Object** pull-down list.

### Macro Object

A Macro Object links a pre-defined macro or a sequence of key strokes to a single key on the Falcon. Refer to the [“Keyboard Macros” section on page 3-3](#) for information on building and editing Macro Object files.

- To apply a **Macro Object** to a current configuration, select the appropriate macro object from the **Macro Object** pull-down list.

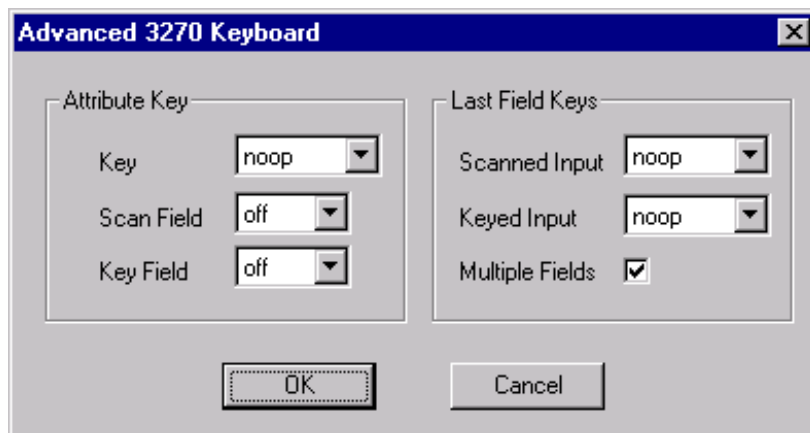
### Advanced

Selecting the **Advanced** button displays the Advanced 3270 Keyboard screen (Only available with 3270 emulation). [Figure 2-5](#) illustrates this screen.



*Setting the Attribute and Last Field Keys is a function best performed by the system administrator.*

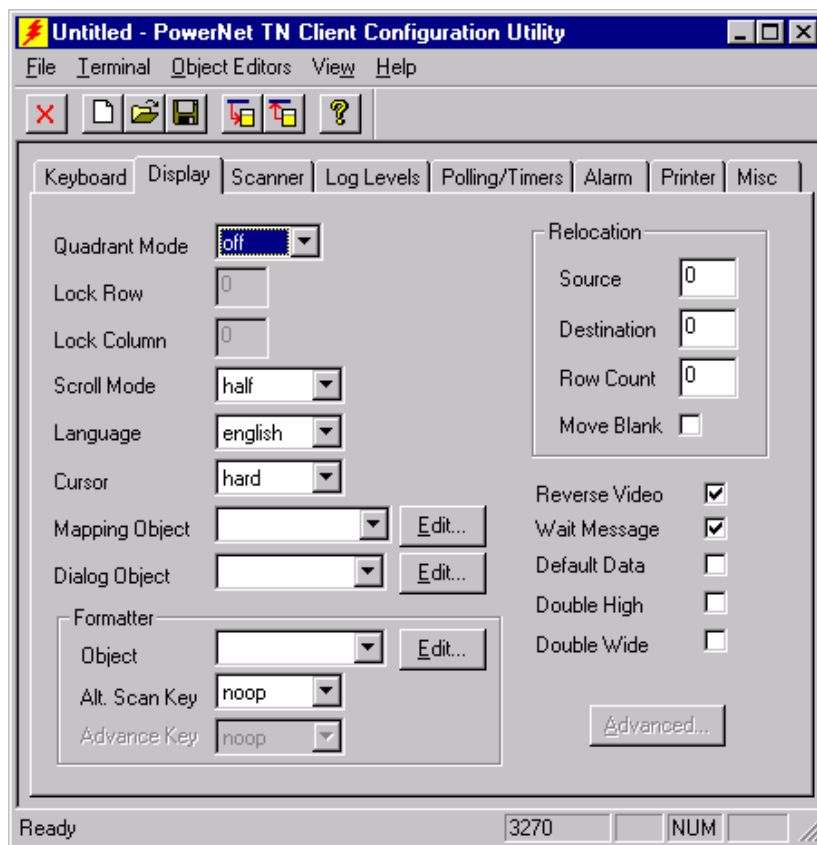
Figure 2-5



### The Display Tab

The **Display Tab** modifies how the Falcon display interacts with the host application. The **Display Tab** is illustrated in [Figure 2-6](#).

Figure 2-6



### Quadrant Mode

There are two options when a Falcon installation requires converting the host application screen to the size of the display on the terminal:

- Reformat the host application display so it can be contained on an appropriately sized screen.
- Utilize the various PowerNet Twin Client Quadrant Modes to control the movement of the viewport.

- Select the mode from the **Quadrant Mode** pull-down list that best meets the installation requirements.

Table 2-3

Quadrant Mode Values	
Default	Off
Available Values	<b>Hard:</b> Positions on a quadrant boundary regardless of input field boundaries. Panning keys are disabled.
	<b>Lock:</b> Locks the terminal display to host display row and column coordinates (see Lock Row and Lock Column below).
	<b>Off:</b> Disables quadrant processing; the client attempts to center the current host input field in the terminal display
	<b>On:</b> Enables quadrant processing; however, input fields that cross quadrant boundaries result in a shift to the left or right
	<b>Soft:</b> Positions on a quadrant boundary regardless of input field boundaries. Viewing keys are enabled.

### Lock Row

If the **Lock Quadrant Mode** was selected, define the row (coordinate *y*) where the display will begin. (Refer to the [“Quadrant Mode” section on page 2-11](#) for more information.)

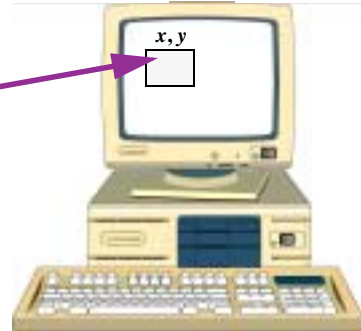
- Enter the desired row value in the **Lock Row** field.

Table 2-4

Lock Row Values	
Default	0
Available Values	0 - 25



**Figure 2-7** The position of a locked quadrant is determined by the specified coordinates of the upper left corner of the desired area. For example, the locked quadrant is defined by the coordinates  $x, y$ :  
Row ( $y$ ): 10  
Column ( $x$ ): 15



### Lock Column

If the **Lock Quadrant Mode** was selected, define the column (coordinate  $x$ ) where the display will begin. (Refer to the [“Quadrant Mode” section on page 2-11](#) for more information.)

- Enter the desired column value in the **Lock Column** field.

**Table 2-5**

Lock Column Values	
Default	0
Available Values	0 - 80

### Scroll Mode

If the **Lock Quadrant Mode** was selected, the host application display can be scrolled on the viewport. (Refer to the [“Quadrant Mode” section on page 2-11](#) for more information.) The possible scroll values are shown in [Table 2-6 on page 2-14](#).

- Select the scroll method from the **Scroll Mode** pull-down list that best meets the application requirements.

Table 2-6

Scroll Mode Values	
Default	Full
Available Values	<b>Full:</b> Terminal display is moved in full-screen increments. <b>Falcon 315:</b> Scrolls down 8 rows and scrolls right 20 columns. <b>Falcon 325/335:</b> Scrolls down 16 rows and scrolls right 21 columns. <b>Falcon 6x5:</b> Scrolls down 24 rows and scrolls right 80 columns.
	<b>Half:</b> Terminal display is moved in half screen increments. <b>Falcon 315:</b> Scrolls down 4 rows and scrolls right 10 columns. <b>Falcon 325/335:</b> Scrolls down 8 rows and scrolls right 10 columns. <b>Falcon 6x5:</b> Scrolls down 12 rows and scrolls right 40 columns.

### Language

PowerNet Twin Client supports several different languages. (Refer to [Table 2-7](#) for a list of available values.) The selected language defines the character set used for terminal error message displays.

- Select the language from the **Language** pull-down list that best meets the application requirements.

Table 2-7

Language Values	
Default	English
Available Values	<b>English:</b>
	<b>French:</b>
	<b>German:</b>
	<b>Spanish:</b>
	<b>Danish:</b>
	<b>Swedish:</b>

### Cursor

PowerNet Twin Client can adjust the type of cursor that is displayed on the Falcon. In most cases, a **Soft** cursor is the best value because it will display the current keyboard state. Refer to [Table 2-8](#) for available cursor values.

Table 2-8

Cursor Values	
Default	Hard
Available Values	<b>Hard:</b> Displays a blinking block cursor.
	<b>Hide:</b> Cursor is not displayed.
	<b>Soft:</b> Displays a software-generated cursor that displays the current keyboard state (i.e. shifted, controlled, FN1, etc.). See the Falcon RF manual for more information.

### Mapping Object

The Display character mapping object file is created by the display mapping object editor. The **Edit** button at the end of the field automatically starts the editor. Refer to the [“Advanced Display Options” section on page 4-1](#) for information on building and editing Mapping Object files.

- If a display mapping object has been pre-defined for the current configuration, select the desired mapping object from the **Mapping Object** pull-down list.

### Dialog Object

The **Dialog Object** file is used for terminal scripting. This feature is only for advanced terminal system administrators with knowledge and experience in developing terminal scripts.

### Formatter Object

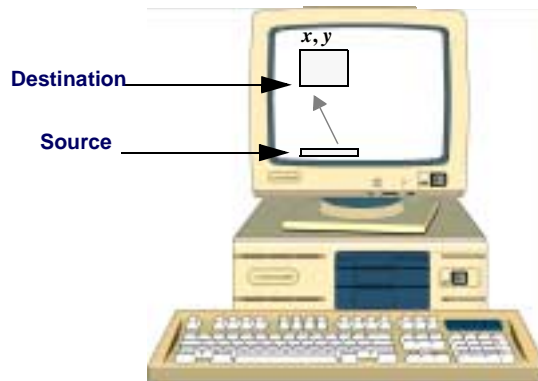
Refer to the [“Screen Formatter Utility” section on page 8-1](#) for more information.

- To apply a **Formatter Object** to a current configuration, select the appropriate object file from the **Formatter Object** pull-down list.

### Relocation Options Group

This feature will relocate a selected screen section from one area of the host application screen to the locked screen section that will be displayed on the Falcon.

Figure 2-8



#### *Source*

The value entered in the **Source** field determines the first host application row to be relocated.

- Enter the first row of the host application screen to be relocated in the **Source** field.

#### *Destination*

The value entered in the **Destination** field determines where the relocated lines will be repositioned on the client screen.

- Enter the row to which the source row(s) will be relocated on the client screen in the **Destination** field.

### Row Count

It is possible to move multiple rows to a new destination. Beginning with the source row, enter the number of rows that will be relocated in the Row Count field.

### Move Blank

Use the **Move Blank** option to specify whether blank rows will be relocated to the specified destination.

- Checking the **Move Blank** checkbox enables the relocation of blank rows.

### Double High

To display the host application using double-high characters, select the **Double High** checkbox.



*Enabling the Double High checkbox will reduce the display from 8 rows to 4 rows on the Falcon 315. On the Falcon 325/335, the display will be reduced from 16 to 8. This feature is not available on the Falcon 6x5.*

### Double Wide

To display the host application using double-wide characters, select the **Double Wide** checkbox.



*Enabling the Double Wide checkbox will reduce the number of columns by half.*

### Reverse Video

Some terminal host applications use reverse text for added visual characteristics. This is often done to draw attention to warnings and/or application controls. To enable this function, select the **Reverse Video** checkbox.

### Wait Message

The **Wait Message** checkbox enables or disables the display of the “WAITING FOR DATA” message on the terminal. A “WAITING FOR DATA” message will be displayed when the data is locked on the

server. Typically, this occurs when the data is already in use and the telnet session is waiting for the data to be released.

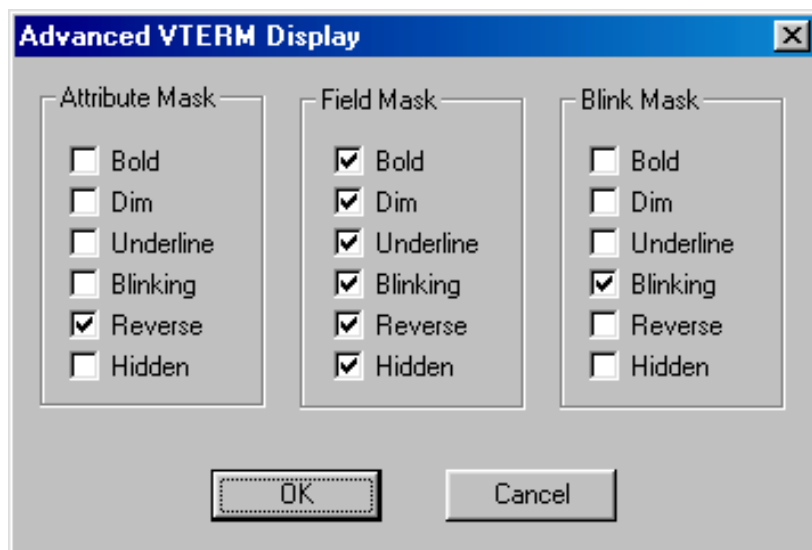
### Advanced VTERM Display

Pressing the **Advanced** button will display the **Advanced VTERM Display** window. (Figure 2-9 illustrates the **Advanced VTERM Display** Window.) Checked items will appear as reverse video.



*These values should only be modified by experienced terminal emulation users.*

Figure 2-9



### Attribute Mask

The **Attribute Mask** selection determines how reverse video fields from the host will be displayed on the terminal.

### Field Mask

The **Field Mask** selection determines the terminal display of video fields that are sent in the **Block Mode**.

### Blink Mask

The **Blink Mask** selection determines how blinking video fields will be displayed on the terminal.

## The Scanner Tab

The **Scanner Tab** sets the parameters of how the Falcon terminal's scanner interacts with the host application. The **Scanner Tab** is illustrated in [Figure 2-10 on page 2-20](#).

### Send Key

Similar to the **Auto Send Key**, the **Send Key** automatically processes a data entry when an input field has received scanned input. For example, if a product number is scanned, the send key would be processed immediately after the scan.

- Select the key that will be specified as the **Send Key** from the **Send Key** pull-down list.

### Scan Ahead



*This feature is not programmable and is grayed out.*

### Truncation

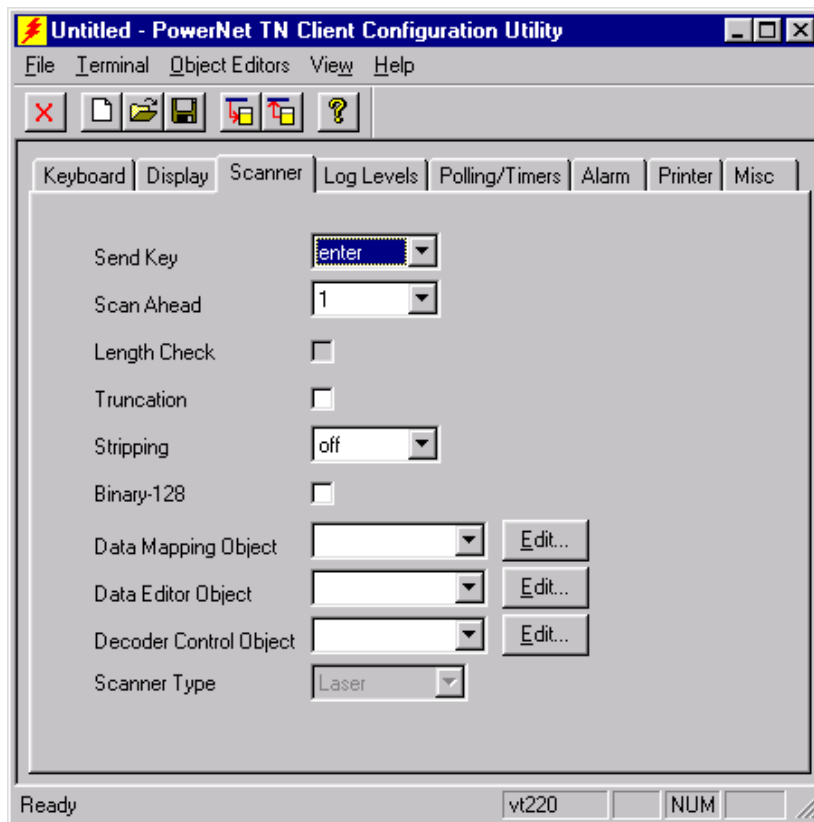
If the length of the scanned input is greater than the length of the input field, the **Truncation** feature will reduce the length of the scanned input to match the target input field.

- Enable the **Truncation** field to activate the PowerNet Twin Client **Truncation** feature.



*If the Truncation feature has been enabled, the Field Wrapping feature is disabled.*

Figure 2-10



### Stripping

Spaces and underscores that trail scanned input will cause data integrity problems when entered into the target application. PowerNet Twin Client can strip trailing spaces and/or underscore characters from scanned input.

- Select the stripping value from the **Stripping** pull-down list that best meets the application requirements.



Table 2-9

Stripping Values	
Default	Off
Available Values	<b>Off</b> : Don't strip.
	<b>Space</b> : Strip spaces.
	<b>Score</b> : Strip underscores.
	<b>Both</b> : Strip both spaces and underscores.

### Binary-128

The Binary-128 checkbox enables or disables the processing of binary code 128 bar codes on the terminal. The default value is **off**.

### Data Mapping Object

The PowerNet Twin Client package can map the incompatible extended characters of the terminal server to the DOS character set on the Falcon. It is then possible to make a change in data entry without requiring any change to the host application. Refer to the [“Data Mapping Object” section on page 5-3](#) for more information on building and editing the **Data Mapping Object** file.

- To apply a **Data Mapping Object** to a current configuration, select the appropriate mapping object from the **Data Mapping Object** pull-down list.

### Data Editor Object

The **Data Editor Object** feature edits scanned data before it is entered into the host application. For example, if a scanned entry needs to be modified or parsed, PowerNet Twin Client will handle this via the **Data Editor Object**. Refer to [“Build Display Mapping Object File” on page 4-4](#) for more information on building and editing the Data Editor Object file.

- To apply a **Data Editor Object** to a current configuration, select the appropriate mapping object from the **Data Editor Object** pull-down list.

### Decoder Control Object

The scanner of the Falcon can be controlled via the **Decoder Control Object**. For example, this feature enables or disables particular symbolologies as well as controls different symbology options.

- To apply a **Decoder Control Object** to a current configuration, select the appropriate control object from the **Decoder Control Object** pull-down list.

### The Log Levels Tab

The **Log Levels Tab** sets the parameters for the terminal's logging functions to track data within the host application. The **Log Levels Tab** is illustrated in [Figure 2-11 on page 2-23](#)

#### General

The **General** pull-down list defines the general logging level for the handler. There are 10 log levels, from **0** to **9**, with a level of **9** collecting the most information. The default value is **0 (zero)**.

#### Display

The **Display** pull-down list defines the level of logging for host and terminal display logging. A level higher than **7** results in a hex dump of the displays. The default value is **0 (zero)**.

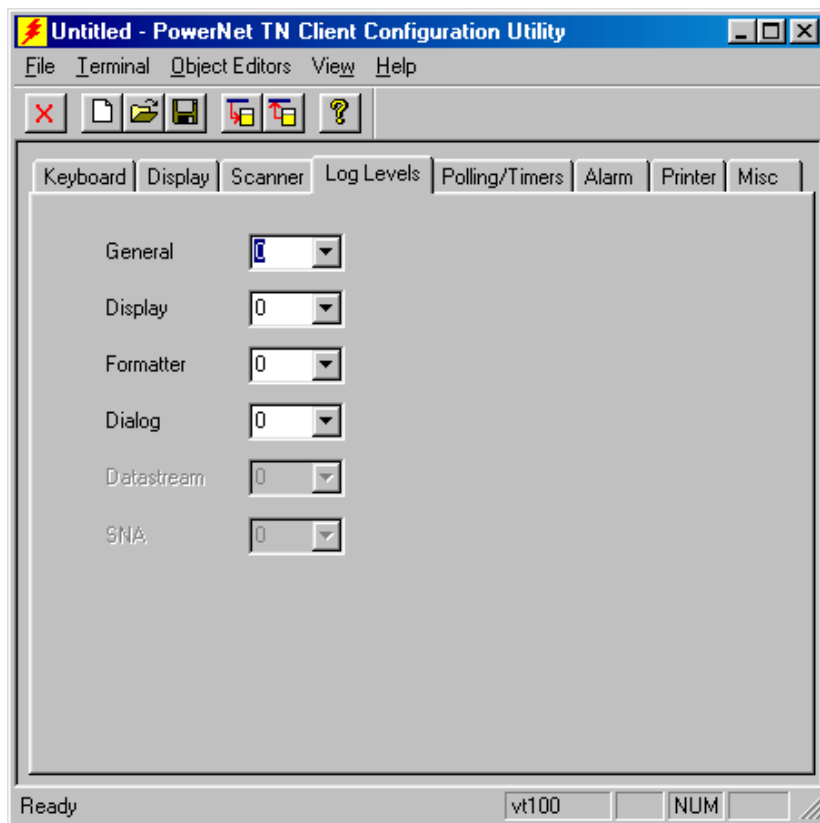
#### Formatter

The **Formatter** pull-down list defines the level of logging for the screen formatting routines. The default value is **0 (zero)**.

#### Dialog

The **Dialog** pull-down list defines the level of logging for dialog routines. The default value is **0 (zero)**.

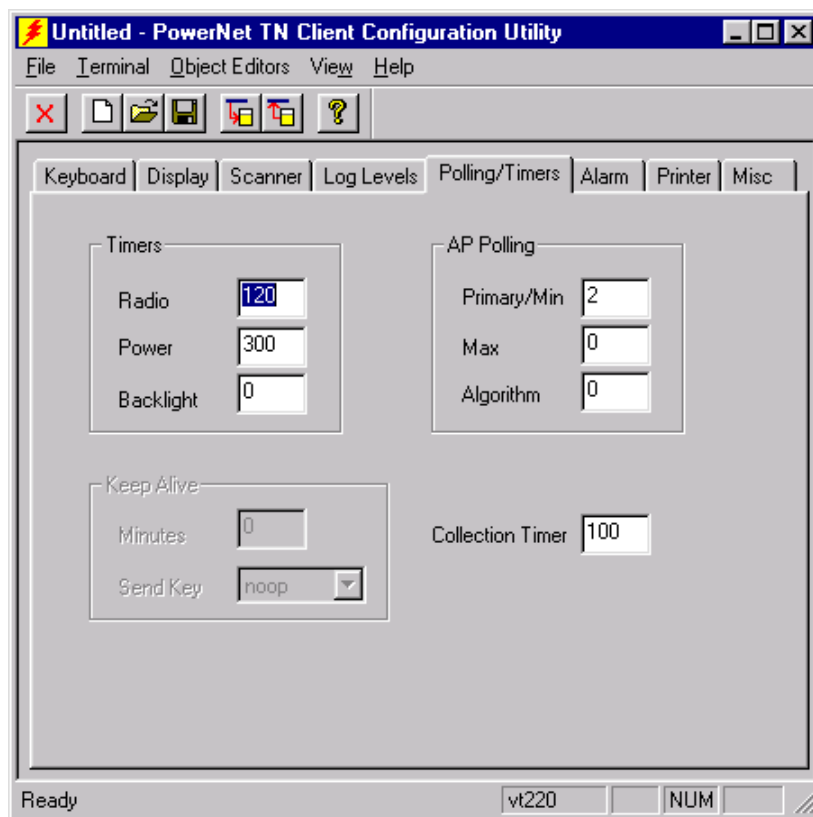
Figure 2-11



### The Polling/Timers Tab

The **Polling/Timers Tab** sets the parameters on how the terminal's radio timer and polling functions will interact with the host application. These timing parameters can be modified to tune the radio's performance when interacting with the host application. The **Polling/Timers Tab** is illustrated in [Figure 2-12 on page 2-24](#).

Figure 2-12



### Timers Options Group

#### *Radio*

The value, in clock ticks (**1** tick = **55ms**), that is entered in the Radio field will determine the amount of time the RF radio will stay “awake” waiting for a transaction response initiated by the host. If no response is received from the host server by the time this value has expired, the radio will go into power savings mode and will check for a response during the next polling cycle.

- Enter the length of time, in ticks, that the RF radio will remain “awake” waiting for a response from host server in the **Radio** field.



*Increasing the Radio value will improve network performance, but will also reduce the battery life.*

### Power

The value, in seconds, entered in the **Power** field will determine the length of terminal inactivity from the scanner, keyboard, or radio. The Falcon will enter Sleep Mode during periods of inactivity (see the Falcon User Guide for more information on the Falcon Sleep Mode).

- Enter the length of inactive time, in seconds, that initiates the Falcon entering Sleep Mode in the **Power** field.

### Backlight

The value, in seconds, entered in the **Backlight** field determines how long the Falcon backlight will stay on after keyboard or scanner input. Refer to [Table 2-10](#) for specific values.

- Enter the length of time, in seconds, that the Falcon backlight will stay on, after input in the **Backlight** field.

Table 2-10

Backlight Values	
Default	0
Available Values	0: Backlight does not turn on after keyboard or scanner input.
	> 0: Backlight will stay on for the specified amount of time (in seconds) after keyboard or scanner input.
	30: Maximum value.

## AP Polling Options Group



*These settings are only available when using a Symbol Spectrum 24-equipped Falcon RF unit.*

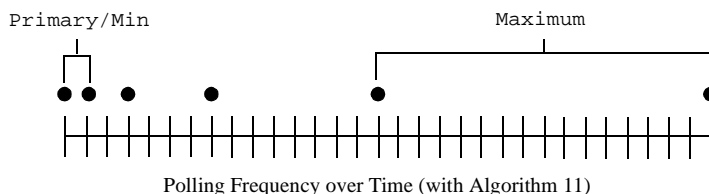
The Symbol Spectrum 24 radio has an advanced power management algorithm that controls the radio polling interval.

After a transmission from the radio, the radio will immediately poll for a transmission from the host server. If no transmission was received, the

interval between polling increases and continues until such time as the maximum interval has been reached.

The optimum power saving/performance configuration uses a dynamic algorithm for determining the timeout period. For example, a timeout period of 1 second can be specified, but as time continues and no traffic is present, the timeout value increases. This dynamic scenario is controlled with the **Primary/Min**, **Max** and **Algorithm** settings, as illustrated in [Figure 2-13](#).

Figure 2-13



### **Primary/Min**

If the **Algorithm** value is set to **11**, the value set in the **Primary/Min** **Field** determines what the minimum beacon interval will be. For example, if the terminal is to begin listening every **200ms**, set the **Primary/Min** value to **2 (1:100 ms)**.

- Enter the minimum polling time, in seconds, for the Symbol radio in the **Primary/Min** field.

### **Max**

If the **Algorithm** value is set to **11**, the value set in the **Max** field determines what the maximum beacon interval will be. For example, to set the longest duration between listens to 1 second, the value must be set to **10**.

- Enter the maximum polling time, in seconds, for the Symbol radio in the **Max** field.

### **Algorithm**

The **Algorithm** value controls how often the radio listens for a beacon. A value between **1** and **10** specifies a static polling period:

(**1=100ms**, **2=200ms**, **9=900ms**, and **10=1 sec**)

**11** specifies the dynamic polling period. The default is **0 (zero)**.

- Enter the algorithm value the Symbol radio will use in the **Algorithm** field.

### Proxim

The **NET.CFG** file for Proxim equipped Falcon RF units is optimized for maximum performance and battery life. To modify the Proxim power management values, it is necessary to edit the **NET.CFG** file. Review the Falcon RF User Guide for more information.

## The Alarm Tab

The **Alarm Tab** sets the parameters on how the terminal's alarm (beep) functions when interacting with the host application. The **Alarm Tab** is illustrated in [Figure 2-14 on page 2-28](#).

### Mode

PowerNet Twin Client offers several different alarm modes. In environments where a tone may be inaudible, the scan indicator (alarm mode) can be set to provide a visual alarm. Refer to [Table 2-11 on page 2-28](#) for specific values.

- From the **Mode** pull-down list, select the alarm mode.



*The alarm mode must be set to **spec1** or **spec2** for duration to take effect.*

Figure 2-14

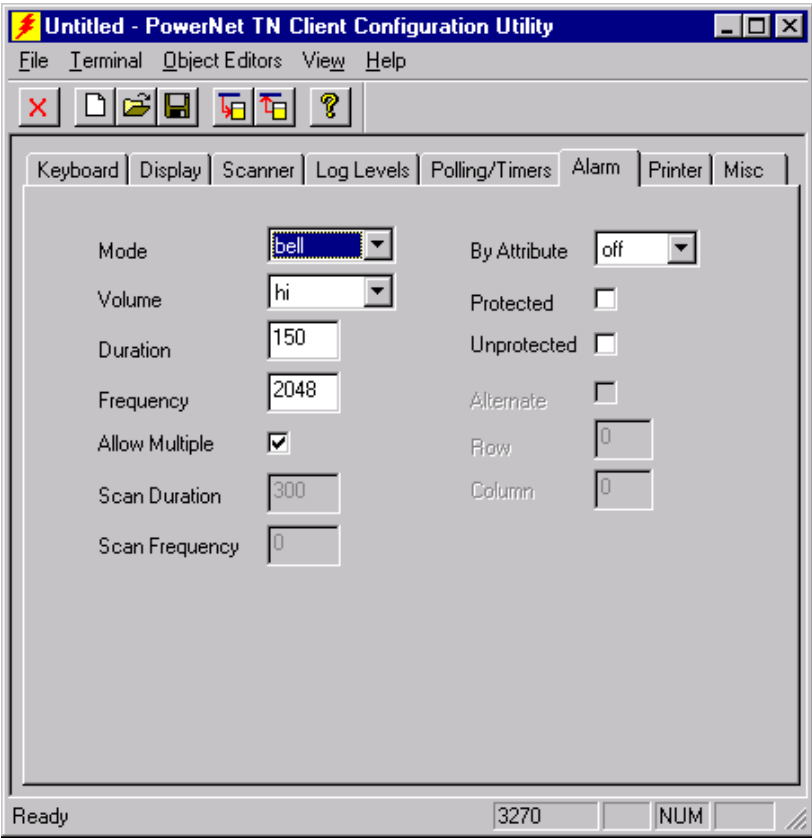


Table 2-11

Mode Values	
Default	Bell
Available Values	<b>Bell:</b> Enables the audible alarm as a double beep.
	<b>Both:</b> Enables the double beep and the scan indicator light as the alarm.
	<b>Flash:</b> Enables the scan indicator light as the alarm with no audible alarm.
	<b>Off:</b> Disables the audible alarm.
	<b>Spec1:</b> Enables the audible alarm as a single beep.
	<b>Spec2:</b> Enables the single beep and the scan indicator as the alarm.



### Volume

The **Volume** adjusts the volume value of the audible alarms.

- Select the desired alarm volume from the **Volume** pull-down list.

Table 2-12

Volume Values	
Default	Hi
Available Values	Hi
	Low

### Duration

The **Duration** value defines the duration of the audible alarm on the terminal in milliseconds.

- Enter the duration, in milliseconds (i.e. **500 ms** for **.5** seconds), for the audible alarm in the **Duration** field.

### Frequency

The **Frequency** value defines the alarm frequency and is defined in hertz. The default value is **2048**.

- Enter the frequency, in hertz, of the audible alarm in the **Frequency** field.

### Scan Duration

The **Scan Duration** value defines the duration of the audible alarm that is generated by a successful scan operation on the terminal in milliseconds.

- Enter the scan duration, in milliseconds (i.e. **500 ms** for **.5** seconds), in the **Scan Duration** field.

### Scan Frequency

The **Scan Frequency** value defines the scan alarm frequency and is defined in hertz. The default value is **0 (zero)**.

- Enter the frequency, in hertz, of the audible alarm in the **Frequency** field.

## Configuration Utility

---



*Define a scan frequency value that is different from the value in the Frequency field. Different tones allow the user to distinguish between a successful scan and an error condition.*

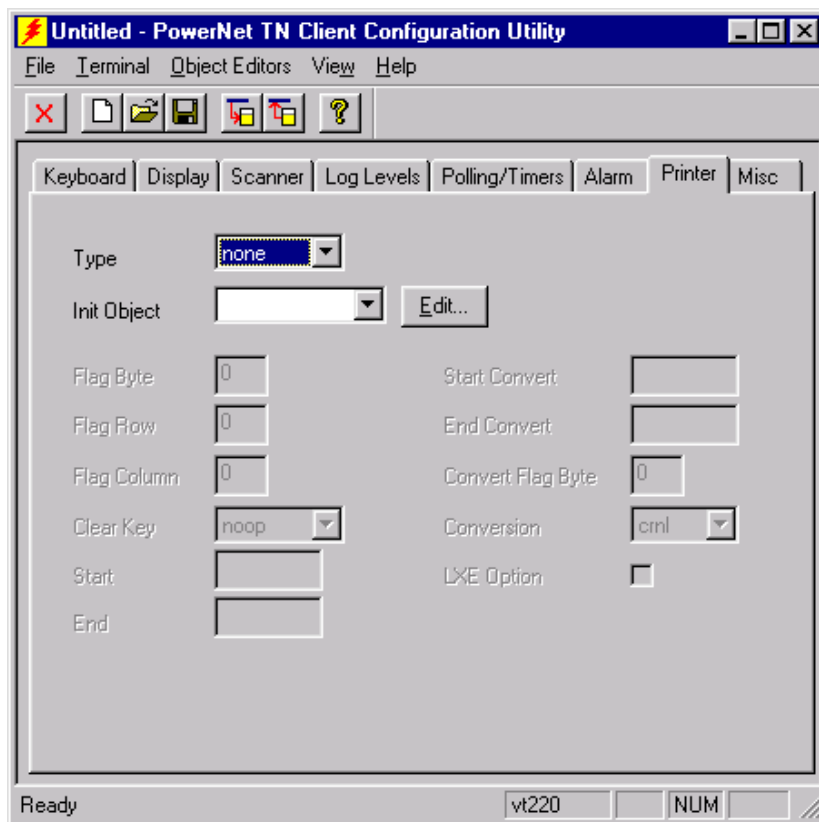
### Allow Multiple

Select the **Allow Multiple** checkbox to enable the Falcon terminal to process any multiple alarms sent sequentially and without a break from the host server. If the checkbox is disabled, only a single alarm will sound. ([Figure 2-14 on page 2-28](#) illustrates this checkbox.)

## The Printer Tab

The **Printers Tab** lists the printers that can be used with the Falcon. The **Printers Tab** is illustrated in [Figure 2-15](#).

Figure 2-15



### Type

Select a printer from the **Type** pull-down list.

Table 2-13

Printer Type Values	
Default	None
Available Values	None
	Ps1000
	Ps1001
	Ps1004
	Monarch
	Pddumb
	Comtec
	Codewriter
	Comtec(s)
	Rascal

### Init Object

The **Init Object** pull-down list selects an initialization file for the printer.

1. Press **Edit** to open a dialog box.
2. Select a file to edit from the pull-down list or create a new file.
  - ♦ The file must contain the initialization commands for the specific printer.

Refer to the printer's documentation for information on defining and editing the printer's initialization file.



*Be sure to enter a semicolon at the end of each line in the initialization commands.*

### The Misc Tab

The **Misc Tab** includes miscellaneous configuration features for specific emulation values.

#### Extended Command Group (3270, 5250 only)

##### *Start*

**Start** specifies a unique character sequence within the host display, which turns all subsequent characters into an Extended Command. Only an End sequence will terminate the Extended Command. The default is blank which indicates that the option is not in use.

##### *End*

**End** specifies a unique character sequence that terminates the Extended Command.

#### Data Stream Group (3270 only)

##### *Send All MDT*

The Data Stream Group determines how fields with the **Modified Data Tag** bit set are selected for transmission to the host application.

If set to **No**, only unprotected fields modified by the terminal operator are transmitted.

If set to **Yes**, all fields with the MDT bit set (protected and unprotected) are transmitted.

The default is **yes**.

##### *Send NULL*

If checked, all null characters are transmitted to the host.

### Answerback (VT100, VT220, HP700 only)



*Note: AS400 hosts must check this field.*

An answerback is a message returned to the host application in response to a request

(CTRL-E).

- Octal escape sequences may be embedded (\nnn).
- The default value is blank.
- Inserting the sequence \$1 into the answerback string causes VTerm to substitute the 3-digit IP address for Access Point terminals.

The following answerback examples send the indicated response back to the host:

**answerback = Hello World**

Sends *Hello World* as a response.

**answerback = \$1**

Sends three digit ID i.e., 065, 066, etc.

**answerback = RF\$1**

Sends RFXXX where XXX is ID.

**answerback = RF\$1\015**

### Load New Configuration

---

After creating and saving the PowerNet Twin Client configuration, load the new configuration to the terminal.

Complete the following steps to load a new PowerNet Twin Client configuration:

1. Perform a safe-boot of the terminal.
  - ♦ **For Falcon 315 and 325:** Press **<CTL><ALT><DEL>**. When the “Wait...” message appears, press **<ESC><DEL>**.
  - ♦ **For Falcon 335:** Press **<CTL><ALT><DEL>**. When the “Wait...” message appears, press **<ESC><SPACE>**.
  - ♦ **For Falcon 615/655 (6x5):** Press **<F5>** at the **starting MS-DOS** prompt.
  - ♦ **For Falcon 3xx only:** The terminal will emit a low tone followed by a higher pitched tone if the safe-boot is successful.
2. Select **Send Setup Files to Terminal** from the Terminal menu in the PowerNet Twin Client Windows configuration utility.
3. Type **LD** at a **c : \** prompt on the Falcon and press the **ENTER**.
  - ♦ If the terminal currently has PowerNet Twin Client running, press the **<F10>** key on the terminal to terminate the current session.
  - ♦ **Falcon 315 Only:** When the “Any Key to Continue” message appears, press **<ALPHA><CAPS><C>** and select **Exit**; this will return the **c : \** prompt.
4. From the PC, select the **OK** button after confirming that the LD on the terminal has started.
5. From the PC, select the **OK** button after receiving the “Transfer Complete” message.
6. Perform a safe-boot as presented in step 1.

# Advanced Keyboard Options

PowerNet Twin Client provides several advanced keyboard options to assign custom macros to a specific Falcon key or remap a Falcon key to provide greater functionality with host applications.

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Build Keyboard Macro Object File	
<b>Keyboard Mapping</b> .....	<b>&lt;3-5&gt;</b>
Define Keyboard Mapping Object	





## Keyboard Macros

---

PowerNet Twin Client can create and assign macros to the Falcon keyboard. These macros are defined within a Keyboard Macro Object file.

### Falcon Key Codes

Macro Object files are constructed using the following syntax:

**<key code>=<macro string>;**

**<key code>** is the Falcon key code. (Refer to [Table 3-1 on page 3-4](#) for the specific Falcon key codes.)

For example, to send the text **vt100** followed by **ENTER** when a user presses the **<F9>** key, define the following in the Macro Object file:  
**pf9=vt100\015;** (\015 is the octal code for **ENTER**)

Multiple keyboard macros can be defined in a single Macro Object file. Each line of the Keyboard Macro Object file must be terminated by a semicolon.

```
pf1=login5\015;  
pf2=passwd5\015;  
pf3=vt100\015;  
pf4=appname\015;
```

### Build Keyboard Macro Object File

To build a Keyboard Macro Object file, complete the following steps:

1. Verify that the **Keyboard** tab of the PowerNet Twin Client Configuration utility is selected.
2. Press the **Edit** button next to the **Macro Object** pull-down list.
3. Enter a name for the macro object file in the **File Name** field and press the **Open** button.
4. Repeat the procedure for defining keyboard macros as shown in the section on Falcon Key Codes.

## Advanced Keyboard Options

- When finished defining the macros, select **Exit** from the **File** menu.
- Press the **Yes** button to save the macros that have been defined.
- Select the saved file from the **Macro Object** pull-down list.
- Save the PowerNet Twin Client configuration by selecting **Save** from the main screen **File** menu.

The selected keyboard macros will be loaded the next time the Falcon terminal is programmed using the PowerNet Twin Client Configuration utility.

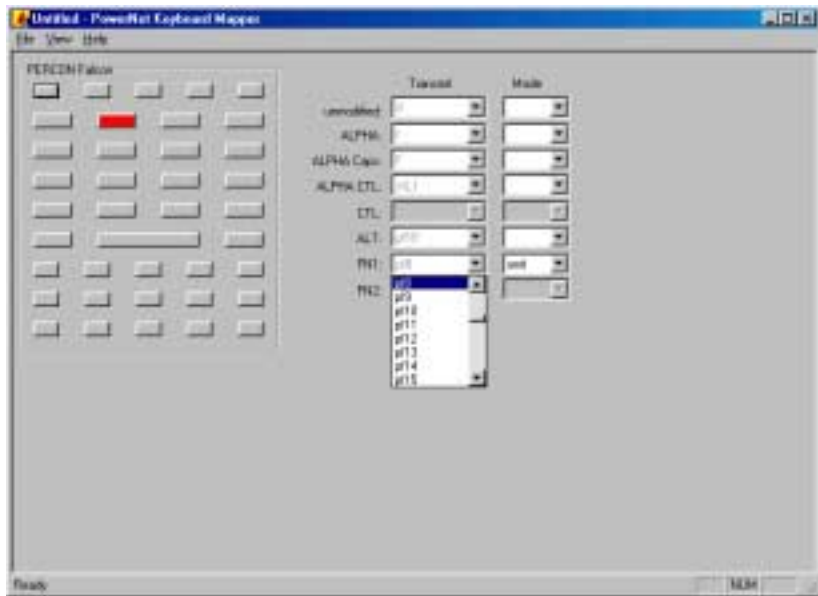
Table 3-1

Falcon Key Codes			
Keypress	Key Code	Keypress	Key Code
<FN1>1	pf1	<left arrow>	left_a
<FN1>2	pf2	<right arrow>	right_a
<FN1>3	pf3	<down arrow>	down_a
<FN1>4	pf4	<up arrow>	up_a
<FN1>5	pf5	<CTL>A	ctl_a
<FN1>6	pf6	<CTL>B	ctl_b
<FN1>7	pf7	<CTL>C	ctl_c
<FN1>8	pf8	<CTL>D	ctl_d
<FN1>9	pf9	<CTL>F	ctl_f
<FN1>0	pf10	<CTL>N	ctl_n
<ALT>1	pf11	<CTL>O	ctl_o
<ALT>2	pf12	<CTL>R	ctl_r
<ALT>3	pf13	<CTL>W	ctl_w
<ALT>4	pf14	<CTL>X	ctl_x
<ALT>5	pf15	<CTL>Y	ctl_y
<ALT>6	pf16		
<ALT>7	pf17		
<ALT>8	pf18		
<ALT>9	pf19		
<ALT>0	pf20		

# Keyboard Mapping

The PowerNet Twin Client Keyboard Mapping utility can add or modify the function of a particular key or key combination. For example, if the host application utilizes <F24> and the Falcon does not have a <F24> key, the Falcon's <F24> key can be mapped to <F24>.

Figure 3-1



The Keyboard Mapper contains a graphical representation of the selected Falcon keyboard on the left of the screen. Key map assignments are located on the right side of the screen. The key map assignment is defined by the new value of the key (selected from the Transmit column) and the transmission method (selected from the Mode column). Refer to [Table 3-2 on page 3-6](#) for specific transmission mode values.

## Advanced Keyboard Options

Table 3-2

Transmission Mode Values	
Default	Blank
Available Values	<b>local</b> : Handle the specified key locally on the terminal, send (if required, as in the case of alphanumeric characters and symbols) when <enter> on the terminals pressed.
	<b>xmit</b> : Transmit the key immediately to the host
	<b>lamp</b> : Turn on the terminal's backlight
	<b>light</b> : Lighten the display contrast.
	<b>dark</b> : Darken the display contrast.
	<b>noop</b> : Don't do anything
	<b>edleft</b> *: Non-destructive backspace (move) to the left of the cursor within a field (operates like a left arrow key)
	<b>edrite</b> *: Non-destructive space (move) to the right of the cursor within a field (operates like a left arrow key)
	<b>edbksp</b> *: Destructive backspace (move) to the left of the cursor within a field
	<b>edefld</b> *: Edit mode.
	<b>edeeof</b> *: Destructive space (move) to the right of the cursor within a field, to the end of the field.
	<b>lhelp</b> : This key, when pressed, displays the terminal ID, date, time, and WHIP/WHAP version number.
	<b>scan</b> : Set a key that, when pressed, triggers the scanner to scan.
* = The cursor must be in block mode for these transmission modes to operate.	

### Define Keyboard Mapping Object

Complete the following steps to map a Falcon key:

1. Verify that the **Keyboard** tab of the PowerNet Twin Client Configuration utility is selected.
2. Press the **Edit** button next to the **Mapping Object** pull-down list.
3. Select the **Falcon Type**.
4. Select the key from the simulated Falcon keyboard that is to be modified. Verify the selection in the **Unmodified** field to the right of the keyboard.
5. Select the **new keyboard** value from the **Transmit** column that corresponds with the keyboard state that is to be modified.
6. Select the **mode** that will be applied to the mapped keyboard value.
7. After defining the keyboard mapping objects, select **Exit** from the **File** menu.
8. Enter a name for the mapping object file in the **File Name** field and press the **Save** button.
9. Select the file from the **Mapping Object** pull-down list.

Save the PowerNet Twin Client configuration by selecting **Save** from the **File** menu. The defined keyboard mapping objects will be loaded the next time the Falcon terminal is programmed using the PowerNet Twin Client Configuration utility.



# 4

## Advanced Display Options

PowerNet Twin Client can map the unsupported characters of the terminal server to the Falcon character set.

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Character Sets	
Build Display Mapping Object File	





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## Display Mapping Object

---



*This feature is for experienced terminal system administrators only.*

### Character Sets

Character sets between the Falcon and terminal servers are compatible for the lower 128 characters, but extended character sets are often incompatible. For example, the © symbol is DOS character **169**, but the same © symbol might be **ISO-8859-1** character **170**. The Display Mapping Object file maps the DOS character set of the Falcon to the character set that the terminal server uses.

Display Mapping Object files are constructed using the following syntax:

```
<Character from Host>=<Character  
Desired>,xlat;
```

<Character from Host> is the character sent by the terminal server and <Character Desired> is the DOS character to be displayed on the Falcon. Each line is ended with **xlat** and a semi-colon.

For example, to substitute **ISO-8859-1** character **¥ (0xa5)** with DOS character **(0x9d)**, define it in the following fashion:

```
0xa5=0x9d,xlat;
```

Multiple character mapping definitions can be specified in a single Display Mapping Object file, however, each line of the Display Mapping Object file must be terminated by a semicolon.

```
0xa5=0x9d,xlat;  
0xa4=0x9b,xlat;
```

### Build Display Mapping Object File

When building the Display Mapping Object file, complete the following steps.

1. Verify that the **Display** tab of the PowerNet Twin Client Configuration utility is selected.
2. Press the **Edit** button next to the **Mapping Object** pull-down list.
3. Enter a name for the mapping object file in the **File Name** field and press the **Open** button.
4. Define all of the necessary character mappings according to the examples shown in the section, [“Character Sets” on page 4-3](#).
5. When finished defining the character mappings, select **Exit** from the **File** menu.
6. Press the **Yes** button to save the defined character mappings.
7. Select the file from the **Mapping Object** pull-down list.

Save the PowerNet Twin Client configuration by selecting **Save** from the **File** menu. The selected display mapping objects will be loaded the next time the Falcon terminal is programmed using the PowerNet Twin Client configuration utility.

# Advanced Scanner Options

PowerNet Twin Client enables a system administrator to manipulate both the the Falcon's scanner and the scanned data entry. This chapter describes the Data Mapping Object, Data Editor Object, and the Decoder Control Object.

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---

# Data Mapping Object

---

The PowerNet Twin Client Mapping Object can be utilized to send a keypress every time the string is scanned.

**<textstring>=<keystroke>;**

**<textstring>** is the original text string and **<keystroke>** is the keypress to send when the specified text string is scanned. Each line must end with a semi-colon.

For example, the Data Mapping Object file might look like the following:

```
$G$ENT=<ENTER>;  
123=<TAB>;  
DKTH34=<PF1>;  
H$*LK=<PF2>;
```

## Build Data Mapping Object File

To build the Data Mapping Object file, complete the following steps:

1. Verify that the **Scanner** tab of the PowerNet Twin Client Configuration utility is selected.
2. Press the **Edit** button next to the **Data Mapping Object** pull-down list. (Refer to [Figure 2-10](#) for an illustration of this screen.)
3. Enter a name for the data mapping object file in the **File Name** field and press the **Open** button.
4. Define all of the necessary data mapping objects according to the examples above.
5. After building the data mapping object file, select **Exit** from the **File** menu.
6. Press the **Yes** button to save the data mapping object file.
7. Select the file from the **Data Mapping Object** pull-down list.

## Advanced Scanner Options

---

Save the PowerNet Twin Client configuration by selecting **Save** from the **File** menu. The selected data mapping objects will be loaded the next time the Falcon terminal is programmed using the PowerNet Twin Client Configuration utility.

## Data Editor Object

PowerNet Twin Client utilizes the data scanning sequence to edit the data it is scanned.

To make defining the Data Editor Object easier, a PowerNet Scan Editor has been included with the PowerNet Twin Client Configuration utility.

Figure 5-1



Scan editing is based on the length and pattern of the scanned entry (determined by Recognition Building Blocks; refer to [Table 5-1 on page 5-6](#)). Once the scanned entry pattern has been recognized, a series of Operational Building Blocks manipulate the scanned entry. (Refer to [Table 5-2 on page 5-6](#).)

## Advanced Scanner Options

---

The Recognition Building Blocks are illustrated in [Table 5-1](#):

Table 5-1

Recognition Building Blocks	
Blocks	<b>A</b> : Alpha Character <b>N</b> : Numeric Character <b>*</b> : Any Character <b>=</b> : Must Match Next Character

The Operation Building Blocks are illustrated in [Table 5-2](#):

Table 5-2

Operation Building Blocks	
Blocks	<b>X</b> : Delete Character <b>*</b> : Copy As Is <b>( )</b> : Substitute <b>" "</b> : Insert

The examples in [Table 5-3](#) illustrate how the Recognition and Operation Building Blocks manipulate scanned data.

Table 5-3

PowerNet TN Scan Editor Examples				
Start Value	Size	Recognition	Operation	End Value
PN-1245	7	AA=-NNNN	"F"*****	FPN-1245
5A5567BBAT	10	*****	*****"F"	5A5567BBATF
TGR87	5	AAANN	**(S)**	TGS87
78-RHG	6	NN=-AAA	**X***	78RHG



### Build Data Editor Object File

Build the Data Editor Object file by completing the following steps.

1. Verify that the **Scanner Tab** of the PowerNet Twin Client Configuration utility is selected.
2. Press the **Edit** button next to the **Data Editor Object** pull-down list.
3. Enter the length of the scanned entry in the **Size** field.
4. Use the Recognition Building Blocks to construct the pattern of the scanned entry that will be manipulated in the **Recognition** field.
5. Use the Operational Building Blocks to manipulate the scanned data entry in the **Operation** field.
6. After building the decoder control object file, select **Exit** from the **File** menu.
7. Press the **Yes** button to save the decoder control object.
8. Enter a name for the mapping object file in the **File Name** field and press the **Save** button.
9. Select the file from the **Data Editor Object** pull-down list.

Save the PowerNet Twin Client configuration by selecting **Save** from the **File** menu. The selected data editor objects will be loaded the next time the Falcon terminal is programmed using the PowerNet Twin Client Configuration utility.

### Decoder Control Object

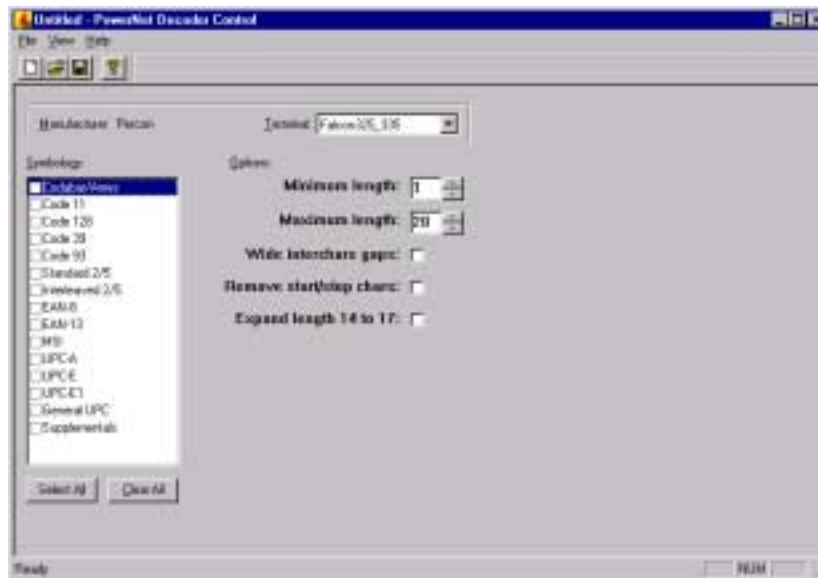
---

PowerNet Twin Client controls the Falcon scanner from two sources:

- The host program.
- The Falcon's decoder control object file.

The Decoder Control Object sets the parameters used to control the active barcodes when using PowerNet Twin Client. A configuration file can be created using the Decoder Control Object in the PowerNet Twin Client Configuration utility. Once the file is completed, a set of active barcodes will be available to the Falcon when online.

Figure 5-2



- **Terminal:** Select the appropriate terminal.
- **Symbology:** Select active symbology.
- **Options:** Determine from the list of available options minimum and maximum code length as well as which symbology features to enable.

# Extended Commands

The host application can issue extended commands to the terminal. The extended command set is a superset of the standard VT100/VT220 escape sequences which allow the following:

- Enabling and/or disabling barcode decodes.
- Controlling scanner and/or keyboard input.
- Setting allowed input character sets.
- Setting double high, double wide or double high/wide fonts.
- Control beep duration and frequency.

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### Barcode Decoder Control Extended Commands

---

These commands are sent from the host to change decoder settings within Falcon 3xx terminals. Refer to online help for the command set.

### Input Mode

---

The host application can control which inputs the terminal will accept. A scanner, keyboard, or both can be accepted.

**Input Mode** parameters are controlled by sending the following sequence to the Falcon before opening an input field:

`<ESC>[!1; <mode>z.`

Table 6-1

Input Mode Parameters		
Mode	Action	Description
0 (default)	Scan and key	Data is initially accepted from either the keyboard or scanner. Scanning is allowed on a partially keyed field, which causes the keyed data to be discarded and the scanned data to be accepted.
1	Scan or key	Data is initially accepted from either the keyboard or scanner. Scanning is not allowed on a partially keyed field. If the operator clears the field then scanning is again allowed.
2	Scan only	Data is accepted only from the scanner; the keyboard is turned off.
3	Key only	Data is accepted only from the keyboard; the scanner is turned off.

# Input Validation

Input validation is used to control the allowed data format for entered characters. The sequence used for this function is:

```
<ESC>[!2;<mode>z.
```

The **mode** parameter can be one of the following:

Table 6-2

Input Validation	
Mode	Action
0 (default)	Accept characters between 0x20 and 0x7F.
1	Accept alpha characters only.
2	Accept numeric characters only.
3	Accept alpha and numeric characters.

For example, to allow keyboard input of numeric characters only, the following sequence would be used:

```
<ESC>[!1;3z<ESC>[!2;2z
(HEX equivalent: 1B 5B 21 31 3B 33 7A 27 5B 21
32 3B 32 7A)
```

To reset the terminal back to normal input, the following sequence is used:

```
<ESC>[!1;0z<ESC>[!2;0z
(HEX equivalent: 1B 5B 21 31 3B 30 7A 27 5B 21
32 3B 30 7A)
```

### Double High/Wide

---

This parameter is sent from the host to select double high, double wide or both double high/wide fonts on the terminal.

The syntax of the command is:

```
<ESC>[!5;<high>;<wide>z.
```

Table 6-3

Double High/Wide		
Hide	Wide	Action
0	0	Default. Displays characters normally.
1	1	Displays characters in Double Wide Mode.
2	0	Displays characters in Double High Mode.
3	1	Displays characters in both Double High and Double Wide Mode.

Once a font size has been set, it continues to be in effect until another font size change is issued or the Falcon is rebooted. To reset to normal video, use the following sequence to turn off both double high and double wide:

```
<ESC>[!5;0;0z
```

```
(HEX equivalent: 1B 5B 21 35 3B 30 3B 30 7A)
```

The font size change command also causes a screen clear simultaneously.



## Beeper Control

---

The beep duration and frequency, and the scan beep duration and frequency may be set using extended commands. These commands allow setting the duration of the beeps in milliseconds. The duration on the Falcon has a granularity of **55 ms** because of its PC-based architecture. This means that any duration is rounded up to the next multiple of **55 ms**. For example, setting a duration of **60 ms** actually causes the beeper to sound for **110 ms**.

The frequency is set in hertz. If the frequency is set to zero, the terminal uses the optimum frequency for the Falcon's speaker. To control the beeps, the following escape sequence can be used:

```
<esc>[!6;1;<Alarm_Dur>;<Alarm_Freq>;<Scan_Dur>;<Scan_Freq>z
```

The default settings for the beep are a duration of **150 ms** with a frequency setting of **zero (0)** while the scan beep defaults to a duration of **300 ms** with a frequency setting of **zero (0)**. The following example illustrates setting the default values:

```
<ESC>[!6;1;150;0;300;0z  
(HEX equivalent: 1B 5B 21 36 3B 31 3B 31 35 30  
3B 30 3B 33 30 30 3B 30 7A)
```

If desired, the default settings can be changed. For example, to set a beep of **110 ms** at **500 Hz** and a scan beep of **220 ms** at **1000 Hz**, the following sequence is used:

```
<ESC>[!6;1;110;500;220;1000z  
(HEX equivalent: 1B 5B 21 36 3B 31 3B 31 31 30  
3B 35 30 30 3B 32 32 30 3B 31 30 30 30 7A)
```

### Video Attributes

---

Reverse video and blinking video attributes are supported using the standard VT-100/220 escape sequences:

Table 6-4

Video Attributes		
Blink	<ESC>[ 5m	(HEX: 1B 5B 35 6D)
Reverse	<ESC>[ 7m	(HEX: 1B 5B 37 6D)

**Blink** and **Reverse Video** must be enabled in advanced **VTerm**.

# Screen Capture Utility

The Screen Capture utility builds a screen database. The Screen Formatter utility accesses this database of host application screens and reformats them to fit on a terminal display screen.

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## Start Screen Capture

---

Before reformatting a terminal application's screens, a database of the host's application screens must be created. The Screen Capture utility telnets to the host application and saves the individual screens into a database.

Complete the following steps to start the Screen Capture utility.

1. Press the **Windows Start** button.
2. Select **Programs** and then select **PowerNet TN**.
3. Select **Configuration Utility** to start the PowerNet Twin Client Windows Configuration utility.
4. From the **Object Editors** menu select **Screen Capture**.

### Identify Terminal Host

---

After the Screen Capture utility has been started, configure it to connect to the host application that will be reformatted for the Falcon display.

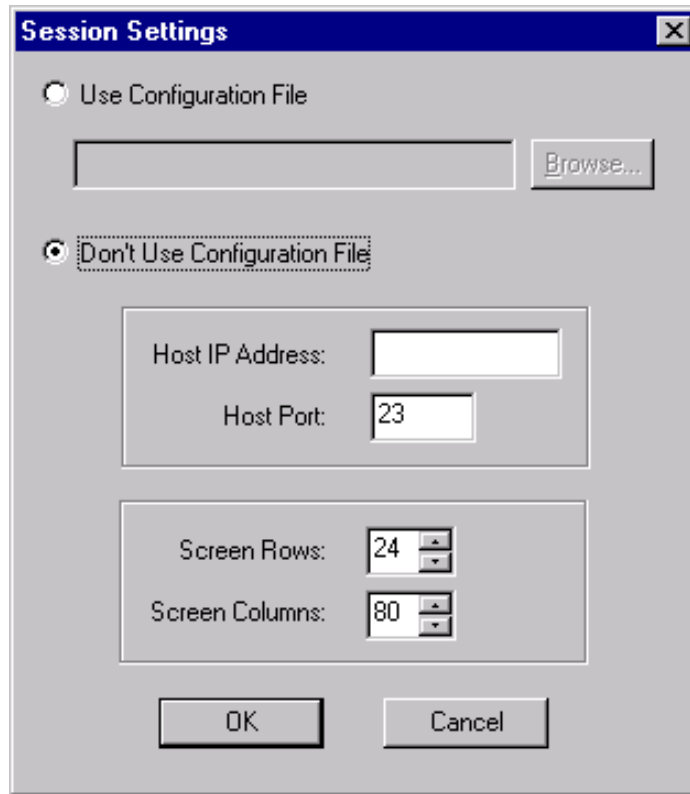
Before configuring the utility, obtain the following information from the system administrator:

1. **Host IP Address:** The IP address of the system host application.
2. **Host Port:** The port used by the host to listen for telnet connections.
3. **Screen Rows:** The number of rows used to display the application.
4. **Screen Columns:** The number of columns used to display the application.
5. **Emulation:** The type of terminal emulation the host server is expecting.

Complete the following steps to configure the Screen Capture utility:

1. Select **Session Settings** from the **Session** menu. [Figure 7-1 on page 7-5](#) illustrates a sample **Session Settings** window.
2. Select whether to use a Configuration File. If so, enter the file directory location. The **Browse** button can be used to locate the file if necessary.
3. Enter the IP address of the host in the **Host IP Address** field.
4. **Host Port:** if necessary, enter the port address for the host. The default is **23**.

Figure 7-1



The image shows a 'Session Settings' dialog box with a blue title bar and a close button (X) in the top right corner. It contains two radio buttons: 'Use Configuration File' (unselected) and 'Don't Use Configuration File' (selected). Below the first radio button is a text field and a 'Browse...' button. Below the second radio button is a group box containing 'Host IP Address:' with a text field, 'Host Port:' with a text field containing '23', 'Screen Rows:' with a spinner box containing '24', and 'Screen Columns:' with a spinner box containing '80'. At the bottom are 'OK' and 'Cancel' buttons.

5. If necessary, specify the number of rows displayed on the terminal's screen using the **Screen Rows** field. The default is 24 rows.

If necessary, specify the number of columns displayed on the terminal's screen using the **Screen Columns** field. The default is 80 columns.

Press the **OK** button when finished configuring the Screen Capture utility.

### Capture Screens

---

The Screen Capture utility is an enhanced terminal emulator that captures and records the screens of the host application.

1. Select **Connect** from the **Session** menu.
2. As each screen of the host application appears, take a snapshot of each screen that requires formatting.

Capture snapshots by performing one of these three steps:

- ◆ Press **<CTL><T>**.
- ◆ Select **Snapshot** from **Session** menu.
- ◆ Press the **Snapshot** button on the toolbar (the Camera icon).



*It is best to take a screen snapshot after data has been entered into all of the fields on the screen. Reviewing a screen complete with data will make it easier to format.*

3. Once the snapshots of the host application's screens have been taken, select **Save** from the **File** menu.
4. Enter the name of the screen database in the **File Name** field and press the **Save** button.
5. Select **Exit** from the **File** menu to close the Screen Capture utility.



# Screen Formatter Utility

The Screen Formatter reformats the host application screens to meet the display requirements of a Falcon terminal.

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Mark Screen Elements	
Build Terminal Screen	
After Reformatting	



# Starting the Screen Formatter

---

Complete the following steps to start the Screen Formatter utility.

1. Press the **Windows Start** button.
2. Select **Programs** and then select **PowerNet TN**.
3. Select **Screen Formatter** under the **Tools** Menu to start the PowerNet Twin Client Windows Configuration utility.
  - ◆ After starting the Screen Formatter utility, open the desired screen database.
4. Select **Open** from the **File** menu.
5. Select the screen database that contains the snapshots that will be reformatted and press the **Open** button.

The first screen snapshot will be displayed in the **Formatter** window.

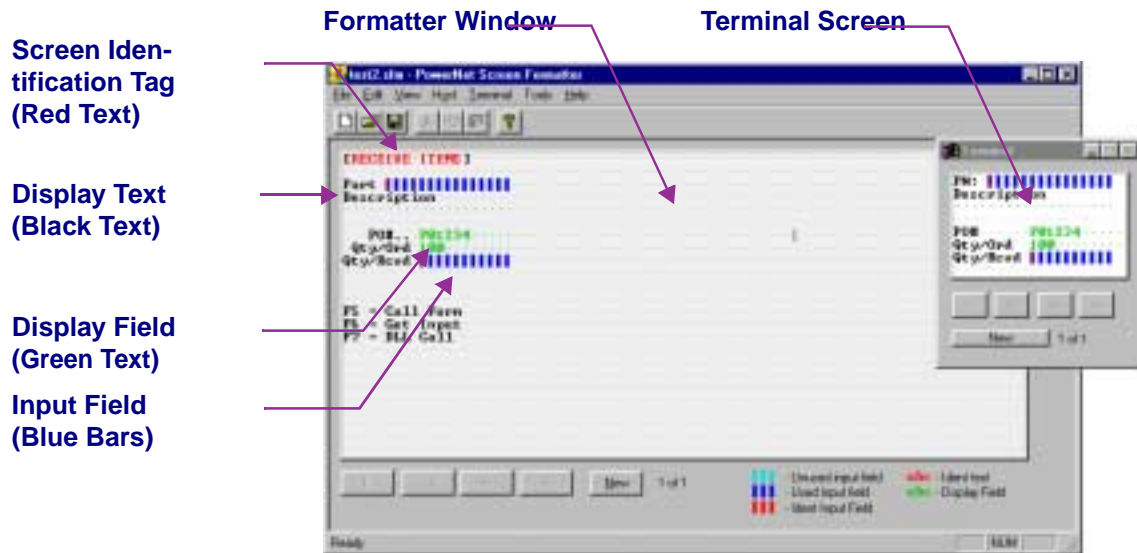
## Configure Screen Formatter

Before formatting the host application screens, the appropriate configuration settings must be completed.

1. Select **Setup** from the **Tools** menu.
2. Select the type of emulation needed to use with the host application from the **Emulation** pull-down list.
3. Select the **Falcon Type** from the list of **Terminal Screen** types.
4. If necessary, adjust the rows and columns to match the host application using the **Rows** and **Columns** fields.
5. Press the **OK** button when complete.

Once elements have been identified, drag and drop or copy and paste to the terminal screen.

### Figure 8-1 The Four Elements of Screen Formatting



### Screen Elements

The screen elements are the tools used to reformat the host application's original screen for the terminal. The following four screen elements are needed to completely reconstruct the host application's screen.

#### Screen Identification Tag

A **Screen Identification Tag** must be assigned to each host application screen snapshot. This identification tag serves as a *link* between the host application screen and the reformatted screen displayed on the terminal.

This identification tag also enables splitting large host application displays into multiple terminal display pages. For example, if a host application screen contains more rows of screen elements than can be properly displayed on a Falcon terminal, it may be divided into multiple display pages.

#### Display Text

The **Display text** element is descriptive (or directive) text that appears on the terminal display. **Display text** is statically defined.

#### Display Fields

**Display fields** are used to display information from the host application server. For example, a **Display field** is used to display an item description that is retrieved after a user enters a part number.

#### Input Fields

**Input fields** are the only screen element that accept data entry from the user. **Input fields** also can be used as **Display fields**

This is beneficial when the host application server is displaying data that a user must verify and/or update. For example, an ordered quantity may be displayed, accepted, and/or changed using an **Input field**.

### Screen Formatter Environment

The Screen Formatter supports the use of standard Windows techniques to reformat the application screen for the terminal. As illustrated in [Figure 8-1 on page 8-4](#), the Screen Formatter has two windows: the **Formatter Window** and the **Terminal Screen**.

#### Formatter Window

The screen snapshots that were saved earlier are displayed in the **Formatter** window. Identify the screen elements in the **Formatter** window and drag them to the desired location in the **Terminal** screen.

There are a series of navigation controls to scroll through the screen snapshots contained in the current database.

When scrolling through these screen snapshots, formatted screens from the **Terminal** screen will be displayed.

#### Terminal Screen

Formatted screens are built using the space contained in the **Terminal** screen. Multiple **Terminal** screens can be useful when working with a single screen snapshot. Press the **New** button on the **Terminal** screen to create an additional terminal display page for the current host screen snapshot.

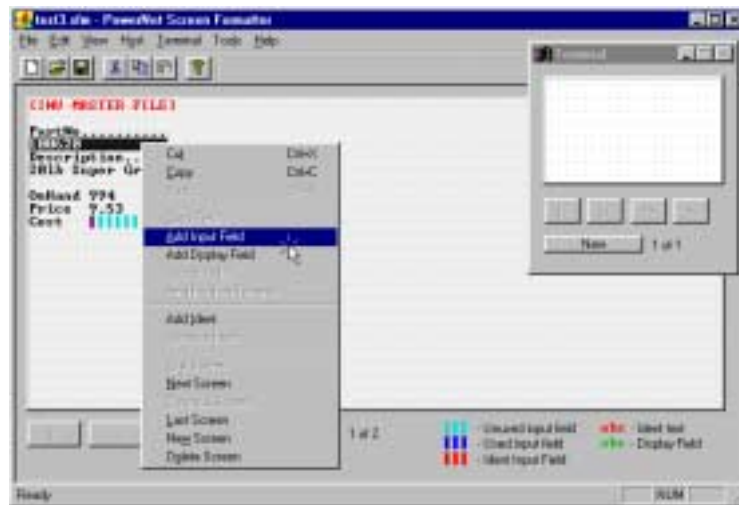
# Using PowerNet Twin Client Screen Formatter

**Figure 8-2** illustrates a screen that has just been loaded in the Screen Formatter. Note the following elements:

- The numbers below the **PartNo** Display Text and to the right of the **Price** Display Text are **Input Fields**. This field does not automatically appear as an **Input Field** because it was not the **Input Field** when the screen shot was taken (this screen element can be marked as an **Input Field**).
- The **201b Super Green Law** and **994** screen elements are both **Display Fields**. These screen elements can also be marked.
- The vertical bars automatically identify the **Cost Input Field**. The **Cost Input Field** was highlighted when the screen snapshot was taken.

The rest of the screen elements displayed are **Display Text** elements.

Figure 8-2 Mark an Input Field Screen Element



## Screen Formatter Utility

---

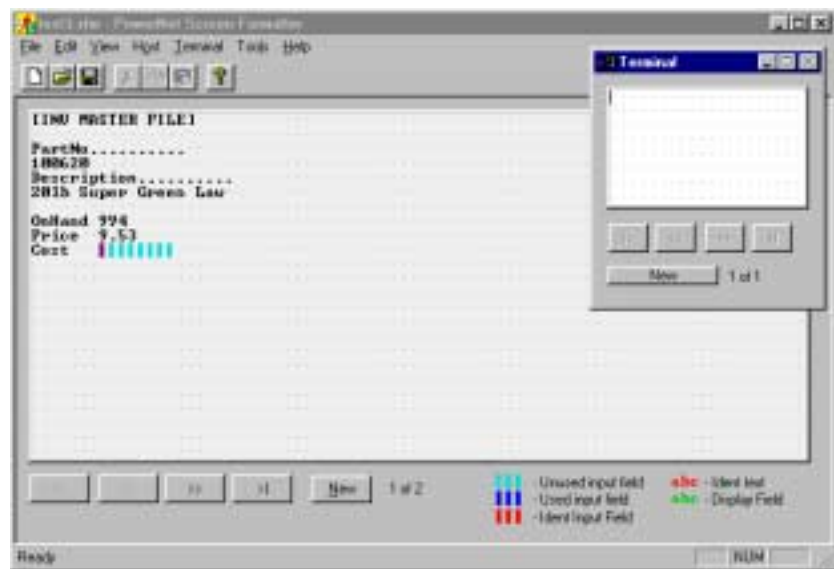
### Specify Screen Identifier

Specify a **Screen Identifier** for each screen snapshot. This is critical in maintaining the link between the host application and reformatted screens.

Complete the following steps to specify the screen identifier:

1. Identify specific text on the screen snapshot that is unique to this screen.
  - ◆ [Figure 8-3](#) illustrates the text **[INV MASTER FILE]**, which is unique to this screen snapshot.

Figure 8-3 Screen Formatter

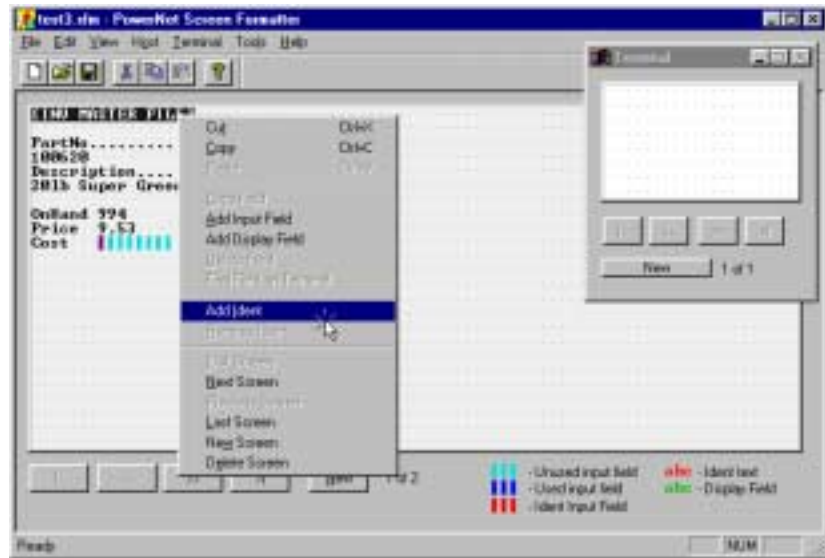


2. Highlight the unique text.
3. Right-click on the highlighted text and select **Add Ident**. [Figure 8-4 on page 8-9](#) illustrates this window.

After **Add Ident** is selected, the highlighted text will turn **red**. Note that only one **Screen Identifier** is needed per screen snapshot



Figure 8-4 Converting Unique Screen Text into a Screen Identifier



### Mark Screen Elements

After specifying the **Screen Identifier**, mark the screen elements contained in the snapshot.

#### Mark Input Fields

The numbers below the **PartNo Display Text**, the numbers to the right of the **Price Display Text**, and the vertical bars to the right of the **Cost Display Text** are all input fields. Since the **Cost Input Field** has automatically been defined, only mark the input field below the **PartNo Display Text**.

1. Highlight the number below the **PartNo Display Text**.
  - ◆ Highlight beyond the end of the number to accept data entry greater than the displayed length. Avoid highlighting any length greater than the width of the Falcon terminal display.

2. Right-click on the highlighted text and select **Add Input Field**.
  - ◆ After selecting the **Add Input Field**, the highlighted text will be replaced with blue vertical bars (these will be marked as light blue since this input field has not been placed on the terminal screen).
3. Highlight the number to the right of the **Price Display Text**.
  - ◆ Highlight beyond the end of the number to accept data entry greater than the displayed length.
4. Right-click on the highlighted text and select **Add Input Field**.

After selecting the **Add Input Field**, the highlighted text will be replaced with blue vertical bars.

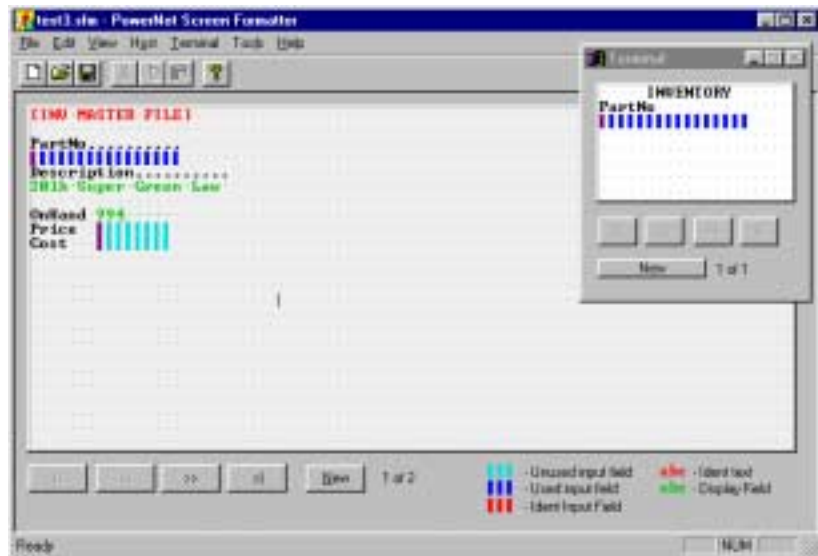
### Mark Display Fields

The numbers below the **Description Display Text** and the numbers to the right of the **OnHand Display Text** are both **Display Fields**. The process for marking **Display Fields** is the same as marking **Input Fields**, except that **Add Display Fields** is selected.

1. Highlight the text below the **Description Display Text**.
  - ◆ Highlight beyond the end of the number to display data longer than the currently selected value.
  - ◆ Avoid highlighting any length greater than the width of the Falcon terminal display. [Figure 8-5 on page 8-11](#) illustrates this window.
2. Right-click on the highlighted text and select **Add Display Field**.
  - ◆ After selecting the **Add Display Field**, the highlighted text will be colored green. If spaces were included in the highlighted text, green dots will replace those spaces.
3. Highlight the number to the right of the **OnHand Display Text**.
  - ◆ Highlight beyond the end of the number to display data longer than the currently displayed value.
  - ◆ Avoid highlighting any length greater than the width of the Falcon terminal display.

## Using PowerNet Twin Client Screen Formatter

Figure 8-5 Drag Screen Elements from Formatter Window to Terminal Screen



4. Right-click on the highlighted text and select **Add Display Field**.
  - ◆ After selecting the Add **Display Field**, the highlighted text will be colored green. If spaces were included in the highlighted text, green dots will replace those spaces.

### Display Text

Unlike the other **Screen Elements**, it is not necessary to explicitly mark the location of **Display Text**. Either type new display text directly **Display Text** from the **Formatter** window.

### Build Terminal Screen

Once the screen identifier has been set, mark the **Input** and **Display Fields**.

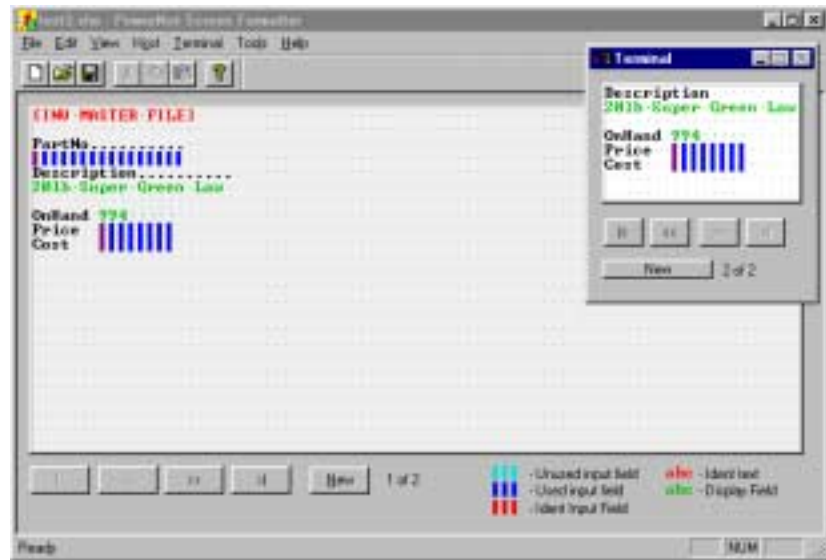
Complete the following steps to build the reformatted screen in the **Terminal** screen.

1. Position the cursor in the middle of the top row of the **Terminal** Screen and type **INVENTORY**.
  - ◆ This is a good example of defining different **Display Text** on the formatted screen. This is especially useful if the length of the **Display Text** must be shortened.
2. Highlight the **PartNo Display Text** in the **Formatter** window.
3. Click and hold the highlighted text. Drag the text to the beginning of the second row of the **Terminal** Screen.
4. Highlight the **Input Field** below the **PartNo** Display Text.
  - ◆ Click and hold the highlighted **Input Field**. Drag the field to the beginning of the third row of the **Terminal** Screen.
5. Press the **New** button on the **Terminal** Screen to create a second terminal screen for the current screen snapshot.
  - ◆ After the user enters a part number in the **PartNo Input Field**, the second terminal screen will automatically be displayed. By using multiple terminal screens, it is easier to reformat host applications that have numerous screen elements.
6. Highlight the **Description Display Text** in the **Formatter** window.
7. Click and hold the highlighted text. Drag the text to the beginning of the first row of the **Terminal** Screen.
8. Highlight the **Input Field** below the **Description Display Text**.
9. Click and hold the highlighted **Input Field**. Drag the field to the beginning of the second row of the **Terminal** Screen.

## Using PowerNet Twin Client Screen Formatter

10. Highlight the row that contains both the **OnHand Display Text** and **Display Field**.
  - ◆ An entire line in the **Formatter** window can be selected, even if the line contains more than one type of screen element.
11. Click and hold the highlighted selection. Drag the selection to the fourth row of the **Terminal** Screen.
12. Highlight the row that contains both the **Price Display Text** and **Input Field**.
13. Click and hold the highlighted selection. Drag the selection to the fifth row of the **Terminal** Screen. [Figure 8-6](#) illustrates the **Terminal** screen.

Figure 8-6 Drag Screen Elements to the Second Terminal Screen



14. Highlight the row that contains both the **Cost Display Text** and **Input Field**.

15. Click and hold the highlighted selection. Drag the selection to the sixth row of the **Terminal** Screen.

The screen snapshot illustrated in [Figure 8-5 on page 8-11](#) has been reformatted into two terminal display pages.

Additional screen snapshots can be reformatted.

- ◆ Press the **Next** (>) button at the bottom of the **Formatter** window to display the next screen snapshot.
- ◆ Repeat the above steps until all of the screen snapshots contained in the current screen database have been reformatted.

## After Reformatting

After reformatting all of the necessary screens in the screen database, complete the following steps:

1. Verify that the **Display** tab of the PowerNet Twin Client Configuration utility is selected.
2. Press the **Edit** button next to the **Mapping Object** pull-down list.
3. Enter a name for the **Mapping Object** file in the **File Name** field and press the **Open** button.
4. Define all of the necessary character mappings.
5. When finished defining the character mappings, select **Exit** from the **File** menu.
6. Press the **Yes** button to save the defined character mappings.
7. Select the file from the **Mapping Object** pull-down list.

Save the PowerNet Twin Client configuration by selecting **Save** from the **File** menu. The selected display mapping objects will be loaded the next time the Falcon terminal is programmed using the PowerNet Twin Client Configuration utility.

# APPENDIX A:

## Keyboard Maps for the PSC Falcon 315

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Models 3270/5250 .....	<A-iv>





# Model VT

Table A-1

Model VT						
Base	Alpha	FN 1	FN 2	Caps	Ctrl	Alt
Esc	Esc	Esc	Esc	Esc	Esc	Esc
Up	a		Top	A	View Up	
Down	b		Bottom	B	View Down	
Left	c		Home	C	View Left	
Right	d			D	View Right	
1	k	F1		K		F11
2	l	F2		L		F12
3	m	F3		M		F13
4	h	F4		H		F14
5	i	F5		I		F15
6	j	F6		J		F16
7	e	F7		E		F17
8	f	F8		F		F18
9	g	F9		G		F19
0	o	F10		O		F20
-	n		Dark	N		
.	p		Light	P		
Space	Space	Space	Space	Space	Space	Space
BkSp	BkSp	BkSp	BkSp	BkSp	BkSp	BkSp
+	q	(	'	Q		
=	r	@	&	R		
#	s		~	S		
\$	t	{	[	T		
,	u	<	_	U		
%	v	)	"	V		
:	w	!	;	W		
\	x	'	/	X		
*	y	}	]	Y		
?	z	>	^	Z		
Intl		Swap				
Delete	Delete	Delete	Delete	Delete	Delete	Delete

# Models 3270/5250

Table A-2

Models 3270/5250								
Base	Alpha	FN 1	FN 2	Caps	Ctrl	Alt	Alpha+Alt	Fn1+Alt
Esc	Esc	Esc	Esc	Esc	Esc	Esc		
Up	a		Top	A	View Up			
Down	b		Bottom	B	View Down			
Left	c		Home	C	View Left			
Right	d			D	View Right			
1	k	F1		K		F11	Field-	<sup>1</sup> PA1
2	l	F2		L		F12	Num.Ovr	<sup>1</sup> PA2
3	m	F3		M		F13	Roll Down	<sup>1</sup> PA3
4	h	F4		H		F14		
5	i	F5		I		F15	New Line	
6	j	F6		J		F16		
7	e	F7		E		F17	Null End	
8	f	F8		F		F18	Field Mark	
9	g	F9		G		F19	Roll Up	
0	o	F10		O		F20		
-	n		Dark	N		Reset		
.	p		Light	P		SysReq		
Space	Space	Space	Space	Space	Space	Space		
BkSp	BkSp	BkSp	BkSp	BkSp	BkSp	BkSp		
+	q	(	'	Q			Field+	
=	r	@	&	R			Refresh	
#	s		~	S				
\$	t	{	[	T			Stat	
,	u	<	_	U			Dup	
%	v	)	"	V				
:	w	!	;	W			Redraw	
\	x	'	/	X			Dev.Cncl	
*	y	}	]	Y				
?	z	>	^	Z			Help	
Enter	Enter	Enter	Enter	Enter	Enter	<sup>2</sup> EOF/FldEx	Enter	Enter
Intl		Swap						
Delete	Delete	Delete	Delete	Delete	Delete	Delete		

1. PA1, PA2, and PA3 are only in 3270 mode.

2. Alt+Enter is Field Exit in 3270 and EOF in 5250.

# APPENDIX B:

## Keyboard Maps for the PSC Falcon 325

### APPENDIX CONTENTS

Model VT .....	<B-iii>
Models 3270/5250 .....	<B-iv>



# Model VT

Table B-1

Model VT					
Base	Cap	Ctrl	Alt	Fn	Intl
F1	F1		F11	F6	F11
F2	F2		F12	F7	F12
F3	F3		F13	F8	F13
F4	F4		F14	F9	F14
F5	F5		F15	F10	F15
0	0	0		:	
1	1	1		/	
2	2	2		@	
3	3	3		'	
4	4	4		\$	
5	5	5		!	
6	6	6		^	
7	7	7		'	
8	8	8		?	
9	9	9		~	
Space	Space	Space	Space	Space	Space
Esc	Esc	Esc	Esc	Esc	Esc
BkSp	BkSp	BkSp	BkSp	BkSp	BkSp
Up	Up	View Up			Roll Up
Down	Down	View Down			Roll Down
Left	Left	View Left			
Right	Right	View Right			
a	A			\	F16
b	B			*	F17
c	C			.	F18
d	D			+	F19
e	E				F20
f	F			-	
g	G			_	
h	H			&	Home
i	I		Info	,	Info
j	J			=	
k	K			<	

table continues on next page

**Table B-1**  
**(Continued)**

Model VT					
Base	Cap	Ctrl	Alt	Fn	Intl
l	L			>	
m	M			(	
n	N			)	
o	O			#	
p	P			;	
q	Q			[	
r	R			]	
s	S				
t	T			Insert	
u	U			%	
v	V			"	
w	W			{	
x	X		End Pos.	}	End Pos.
y	Y				
z	Z				

# Models 3270/5250

Table B-2

Models 3270/5250					
Base	Caps	Ctrl	Alt	Fn	Intl
F1	F1		F11	F6	F11
F2	F2		F12	F7	F12
F3	F3		F13	F8	F13
F4	F4	F24	F14	F9	F14
F5	F5		F15	F10	F15
0	0	0		:	
1	1	1		/	
2	2	2		@	
3	3	3		'	
4	4	4		\$	
5	5	5		!	
6	6	6		^	
7	7	7		'	
8	8	8		?	
9	9	9		~	
Space	Space	Space	Space	Space	Space
Esc	Esc	Esc	Esc	Esc	Esc
BkSp	BkSp	BkSp	BkSp	BkSp	BkSp
Up	Up	View Up			Roll Up
Down	Down	View Down			Roll Down
Left	Left	View Left			
Righ	Right	View Right			
a	A			\	F16
b	B			*	F17
c	C		Clear	.	F18
d	D			+	F19
e	E				F20
f	F			-	F21
g	G			_	F22
h	H			&	F23
i	I		Info	,	Info
j	J			=	M1
k	K			<	M2

table continues on next page

Table B-2

Models 3270/5250					
Base	Caps	Ctrl	Alt	Fn	Intl
l	L			>	M3
m	M			(	Home
n	N			)	Field -
o	O			#	Field +
p	P			;	ErEOF
q	Q			[	ErINP
r	R			]	Reset
s	S				SysReq
t	T			Insert	Clear
u	U			%	Attention
v	V			"	End Pos.
w	W			{	Help
x	X			}	Field Exit
y	Y				
z	Z				
PF24 Mapped to same location is Info key, which is info I, so only Info key works.					



# APPENDIX C:

## Keyboard Maps for the PSC Falcon 335

### APPENDIX CONTENTS

Model VT .....	<C-iii>
Models 3270/5250 .....	<C-iv>



# Model VT

Table C-1

Model VT				
Base	Cap	Ctrl	Alt	Fn
F1	F1		F11	F6
F2	F2		F12	F7
F3	F3		F13	F8
F4	F4		F14	F9
F5	F5		F15	F10
0	0	0		Tab
1	1	1	Field Mark	End
2	2	2	View Down	Down
3	3	Roll down		PgDn
4	4	4	View Left	Left
5	5	5		View Key
6	6	6	View Right	Right
7	7	7		Home
8	8	8	View Up	Up
9	9	Roll Up	9	PgUp
Space	Space	Space	Space	BkSp
Esc	Esc	Esc	Esc	Del
a	A		F16	@
b	B		F17	#
c	C		F18	'
d	D		F19	>
e	E		F20	/
f	F			=
g	G			\
h	H		Home	-
i	I		Info	!
j	J			+
k	K			\$
l	L			%
m	M			~
n	N			<
o	O			'
p	P			

table continues on next page

**Table C-1**  
**(Continued)**

Model VT				
Base	Cap	Ctrl	Alt	Fn
q	Q			?
r	R			—
s	S			:
t	T	Insert		;
u	U			%
v	V			&
w	W			*
x	X		End Pos.	“
y	Y			•
z	Z			’
Intl maps to the same keys as Alt				

# Models 3270/5250

Table C-2

Models 3270/5250				
Base	Caps	Ctrl	Alt	Fn
F1	F1		F11	F6
F2	F2		F12	F7
F3	F3		F13	F8
F4	F4		F14	F9
F5	F5		F15	F10
0	0	0		Tab
1	1	1	Field Mark	End
2	2	2	View Down	Down
3	3	Roll down		PgDn
4	4	4	View Left	Left
5	5	5		View Key
6	6	6	View Right	Right
7	7	7		Home
8	8	8	View Up	Up
9	9	Roll Up		PgUp
Space	Space	Space	Space	BkSp
Esc	Esc	Esc	Esc	Del
a	A		F16	@
b	B		F17	#
c	C		F18	'
d	D		F19	>
e	E		F20	/
f	F		F21	=
g	G		F22	\
h	H		F23	-
i	I		Info	!
j	J		M1	+
k	K		M2	\$
l	L		M3	%
m	M		Home	~
n	N		Field -	<
o	O		Field +	'
p	P		ErEOF	

table continues on next page

Table C-2

Models 3270/5250				
Base	Caps	Ctrl	Alt	Fn
q	Q		ERINP	?
r	R		Reset	_
s	S		SysReq	:
t	T	Insert	Clear	;
u	U		Attention	%
v	V		End Pos	&
w	W		Help	*
x	X		Field Exit	"
y	Y			.
z	Z			,
Intl maps to same the same keys as Alt .PF24 Mapped to same location as Info key, which is Alt I, so only Info key works.				

# APPENDIX D:

## Keyboard Maps for the LXE

### APPENDIX CONTENTS

Model VT .....	<D-iii>
Models 3270/5250 .....	<D-iv>





# Model VT

Table D-1

Model VT				
Base	Shift	Ctrl	Alt	2nd
F1	F11			
F2	F12			
F3	F13			
F4	F14			
F5	F15			
F6	F16			
F7	F17			
F8	F18			
F9	F19			Back Light
F10	F20			
Up	Up	View Up	Roll Up	
Down	Down	View Down	Roll Down	
Left	Left	View Left	Darken	Roll Down
Right	Right	View Right	Lighten	ErEOF
0				<
1				[
2	Down			]
3				=
4	Left			
5				{
6	Right			}
7	ErEOF			/
8	Up			-
9				+
.	Delete			Delete
Back Space				Insert
Space	Space	Space	Space	Space
Esc	Esc	Esc	Esc	Esc
a	A	Ctrl a		
b	B	Ctrl b		~
c	C	Ctrl c		
d	D	Ctrl c		:
e	E	Ctrl e		#

table continues on next page

**Table D-1**  
**(Continued)**

Model VT				
Base	Shift	Ctrl	Alt	2nd
f	F	Ctrl f		;
g	G	Ctrl g		"
h	H	Ctrl h		'
i	I	Ctrl i		*
j	J	Ctrl j		,
k	K	Ctrl k		.
l	L	Ctrl l		?
m	M	Ctrl m		—
n	N	Ctrl n		`
o	O	Ctrl o		(
p	P	Ctrl p		)
q	Q	Ctrl q		!
r	R	Ctrl r		\$
s	S	Ctrl s		\
T	t	Ctrl t		%
u	U	Ctrl u		&
v	V	Ctrl v		
w	W	Ctrl w		@
x	X	Ctrl x		
y	Y	Ctrl y		^
z	Z	Ctrl z		

# Models 3270/5250

Table D-2

Models 3270/5250				
Base	Shift	Ctrl	Alt	2nd
F1	F11	F21		
F2	F12	F22		
F3	F13	F23		
F4	F14	F24		
F5	F15			
F6	F16			
F7	F17			
F8	F18			
F9	F19			
F10	F20			Back Light
Up	Up	View Up	Roll Up	
Down	Down	View Down	Roll Down	
Left	Left	View Left	Darken	Home
Right	Right	View Right	Lighten	ErEOF
0				<
1			PA1	[
2	Down		PA2	]
3			PA3	>
4	Left			=
5				{
6	Right			}
7	ErEOF			/
8	Up			-
9				+
.	Delete			Delete
Back Space				Insert
Space	Space	Space	Space	Space
Esc	Esc	Esc	Esc	Esc
a	A	Ctrl a	Attention	
b	B	Ctrl b	Bottom	~
c	C	Ctrl c	Clear	
d	D	Ctrl c	Redraw	:
e	E	Ctrl e	Field Exit	#

table continues on next page

Table D-2

Models 3270/5250				
Base	Shift	Ctrl	Alt	2nd
f	F	Ctrl f	Field Mark	;
g	G	Ctrl g		"
h	H	Ctrl h	Help	'
i	I	Ctrl i	Info	*
j	J	Ctrl j		,
k	K	Ctrl k		.
l	L	Ctrl l	Local Exit	?
m	M	Ctrl m	Field -	_
n	N	Ctrl n	New Line	'
o	O	Ctrl o		(
p	P	Ctrl p	Field +	)
q	Q	Ctrl q		!
r	R	Ctrl r	Reset	\$
s	S	Ctrl s	Sys Req	\
T	t	Ctrl t	Top	%
u	U	Ctrl u	Dup	&
v	V	Ctrl v	Refresh	
w	W	Ctrl w		@
x	X	Ctrl x	Null End	
y	Y	Ctrl y	Back Tab	^
z	Z	Ctrl z		

---

## A

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